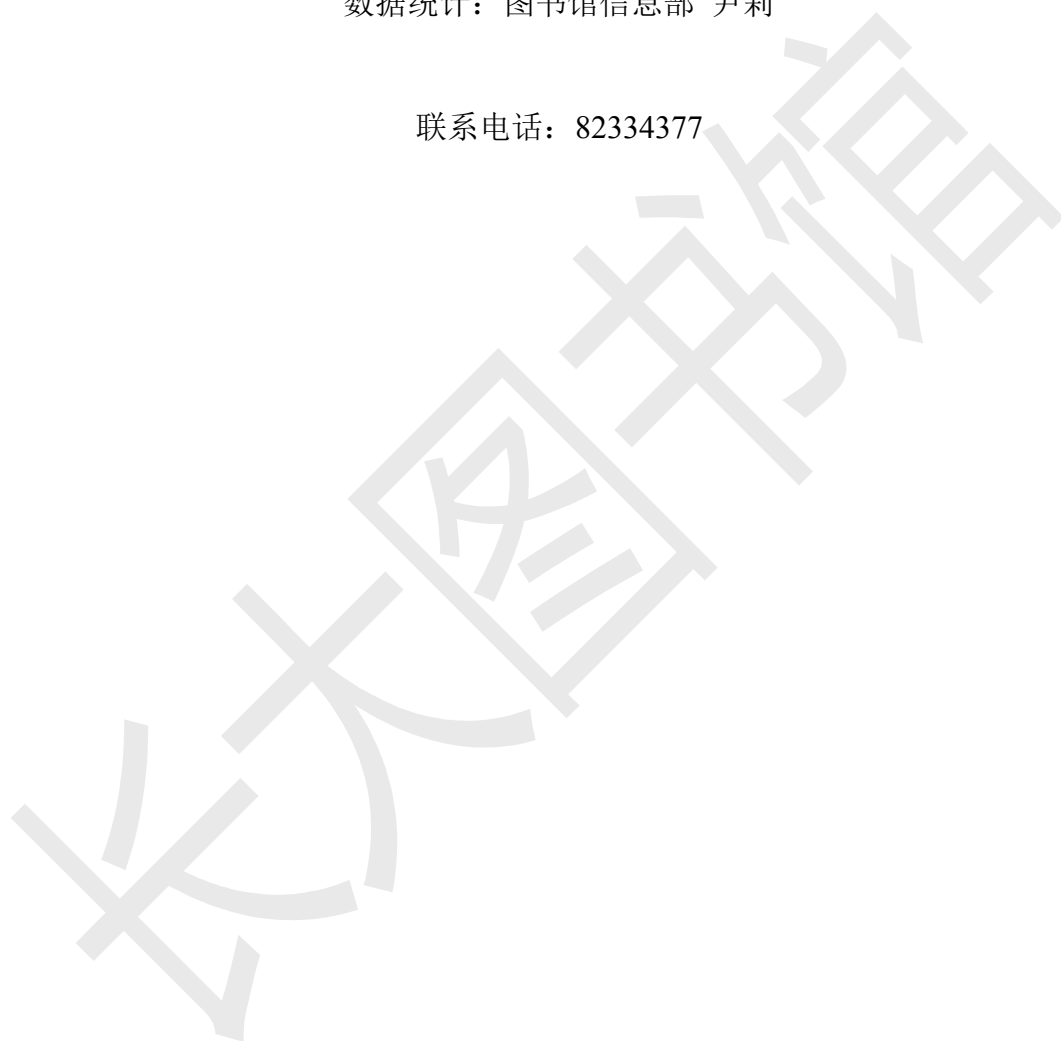


长安大学 ESI 简况

(2018 年 11 月 16 日更新数据)

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2018 年 11 月 16 日，最新一期 ESI 数据更新发表，统计数据覆盖时间范围为 10 年 8 个月（2008.1.1-2018.8.31），长安大学在本次统计数据覆盖时间范围内的表现如下：

一. 长安大学 ESI 高被引论文情况

在本次 ESI 统计数据覆盖时间范围内，全球位列 ESI 高水平研究机构总数 5757 所，比上期（2018 年 9 月公布）增加 56 所（上期 5710 所），我校 ESI 排名 3180 位，高被引论文 39 篇（见表 1），比上期（2018 年 9 月更新数据为 29 篇）增加 10 篇，有较大幅度的增加；热点论文 2 篇（见表 2），与上期相比减少 1 篇。



表 1 长安大学 ESI 高被引论文简况 (按 ESI 被引频次排序)

序号	论文名称	WOS 号	作者	来源期刊	ESI 学科	ESI 被引次数
1	COMBUSTION AND PERFORMANCE EVALUATION OF A DIESEL ENGINE FUELED WITH BIODIESEL PRODUCED FROM SOYBEAN CRUDE OIL	000269711300022	QI, DH;GENG, LM;CHEN, H;BIAN, YZ;LIU, J;REN, XC	RENEWABLE ENERGY, 2009, 34 (12): 2706-2713	ENGINEERING	155
2	EXPERIMENTAL STUDIES ON THE COMBUSTION CHARACTERISTICS AND PERFORMANCE OF A DIRECT INJECTION ENGINE FUELED WITH BIODIESEL/DIESEL BLENDS	000281339700070	QI, DH;CHEN, H;GENG, LM;BIAN, YZ	ENERG CONV MANAGE, 2010, 51 (12): 2985-2992	ENGINEERING	136
3	PERFORMANCE AND COMBUSTION CHARACTERISTICS OF BIODIESEL-DIESEL-METHANOL BLEND FUELLED ENGINE	000274943400022	QI, DH;CHEN, H;GENG, LM;BIAN, YZ;REN, XC	APPL ENERG, 2010, 87 (5): 1679-1686	ENGINEERING	115
4	MICROWAVE-ASSISTED IN SITU SYNTHESIS OF REDUCED GRAPHENE OXIDE-BIVO4 COMPOSITE PHOTOCATALYSTS AND THEIR ENHANCED PHOTOCATALYTIC PERFORMANCE FOR THE DEGRADATION OF CIPROFLOXACIN	000317878400014	YAN, Y;SUN, SF;SONG, Y;YAN, X;GUAN, WS;LIU, XL;SHI, WD	J HAZARD MATER, 2013, 250: 106-114	ENGINEERING	86
5	BUILDING A NEW AND SUSTAINABLE SILK ROAD ECONOMIC BELT	000362903400023	LI, PY;QIAN, H;HOWARD,	ENVIRON EARTH SCI,	ENVIRONMEN T/ECOLOGY	79

			KWF;WU, JH	2015, 74 (10): 7267-7270		
6	MICROWAVE SYNTHESIS OF A NOVEL MAGNETIC IMPRINTED TiO ₂ PHOTOCATALYST WITH EXCELLENT TRANSPARENCY FOR SELECTIVE PHOTODEGRADATION OF ENROFLOXACIN HYDROCHLORIDE RESIDUES SOLUTION	000337554100003	LU, ZY;CHEN, F;HE, M;SONG, MS;MA, ZF;SHI, WD;YAN, YS;LAN, JZ;LI, F;XIAO, P	CHEM ENG J , 2014, 249: 15-26	ENGINEERING	74
7	EVALUATION OF SHALLOW GROUNDWATER CONTAMINATION AND ASSOCIATED HUMAN HEALTH RISK IN AN ALLUVIAL PLAIN IMPACTED BY AGRICULTURAL AND INDUSTRIAL ACTIVITIES, MID-WEST CHINA	000381997600002	WU, JH;SUN, ZC	EXPO HEALTH, 2016, 8 (3): 311-329	ENVIRONMEN T/ECOLOGY	73
8	URANIUM AND MOLYBDENUM ISOTOPE EVIDENCE FOR AN EPISODE OF WIDESPREAD OCEAN OXYGENATION DURING THE LATE EDIACARAN PERIOD	WOS:000352192100010	KENDALL, B;KOMIYA, T;LYONS, TW;BATES, SM;GORDON, GW;ROMANIELL O, SJ;JIANG, GQ;CREASER, RA;XIAO, SH;MCFADDEN, K;SAWAKI,	GEOCHIM COSMOCHIM ACTA, 2015, 156: 173-193	GEOSCIENCES	71

			Y;TAHATA, M;SHU, DG;HAN, J;LI, Y;CHU, XL;ANBAR, AD			
9	ADSORPTION OF CADMIUM BY BIOCHAR DERIVED FROM MUNICIPAL SEWAGE SLUDGE: IMPACT FACTORS AND ADSORPTION MECHANISM	WOS:000356549500039	CHEN, T;ZHOU, ZY;HAN, R;MENG, RH;WANG, HT;LU, WJ	CHEMOSPHERE , 2015, 134: 286-293	ENVIRONMEN T/ECOLOGY	60
10	HYDROGEOCHEMICAL CHARACTERIZATION OF GROUNDWATER IN AND AROUND A WASTEWATER IRRIGATED FOREST IN THE SOUTHEASTERN EDGE OF THE TENGER DESERT, NORTHWEST CHINA	WOS:000381997600003	LI, PY;WU, JH;QIAN, H;ZHANG, YT;YANG, NA;JING, LJ;YU, PY	EXPO HEALTH, 2016, 8 (3): 331-348	ENVIRONMEN T/ECOLOGY	56
11	HYDROCHEMICAL APPRAISAL OF GROUNDWATER QUALITY FOR DRINKING AND IRRIGATION PURPOSES AND THE MAJOR INFLUENCING FACTORS: A CASE STUDY IN AND AROUND HUA COUNTY, CHINA	WOS:000369322200015	LI, PY;WU, JH;QIAN, H	ARAB J GEOSCI , 2016, 9 (1)	GEOSCIENCES	48
12	NUTRIENT AND ORGANICS REMOVAL FROM SWINE SLURRY WITH SIMULTANEOUS ELECTRICITY GENERATION IN AN ALUM	WOS:000350931600009	DOHERTY, L;ZHAO, YQ;ZHAO, XH;WANG, WK	CHEM ENG J, 2015, 266: 74-81	ENGINEERING	43

	SLUDGE-BASED CONSTRUCTED WETLAND INCORPORATING MICROBIAL FUEL CELL TECHNOLOGY					
13	APPRAISING GROUNDWATER QUALITY AND HEALTH RISKS FROM CONTAMINATION IN A SEMIARID REGION OF NORTHWEST CHINA	WOS:000381997600005	LI, PY;LI, XY;MENG, XY;LI, MN;ZHANG, YT	EXPO HEALTH, 2016, 8 (3): 361-379	ENVIRONMEN T/ECOLOGY	42
14	FOUR STAGES SYMMETRIC TWO-STEP P-STABLE METHOD WITH VANISHED PHASE-LAG AND ITS FIRST, SECOND, THIRD AND FOURTH DERIVATIVES	WOS:000378971700008	HUI, F;SIMOS, TE	APPL COMPUT MATH, 2016, 15 (2): 220-238	MATHEMATIC S	35
15	PREDICATION OF NONLINEAR HEAT TRANSFER IN A CONVECTIVE-RADIATIVE FIN WITH TEMPERATURE-DEPENDENT PROPERTIES BY THE COLLOCATION SPECTRAL METHOD	WOS:000367347200004	SUN, YS;MA, J;LI, BW;GUO, ZX	NUMER HEAT TRANSFER PT B-FUND, 2016, 69 (1).: 68-83	ENGINEERING	34
16	A HIGH-ORDER TWO-STEP PHASE-FITTED METHOD FOR THE NUMERICAL SOLUTION OF THE SCHRODINGER EQUATION	WOS:000387090000085	ZHANG, W;SIMOS, TE	MEDITERR J MATH, 2016, 13 (6): 5177-5194	MATHEMATIC S	34
17	INVESTIGATION PROGRESSES AND APPLICATIONS OF FRACTIONAL DERIVATIVE MODEL IN GEOTECHNICAL ENGINEERING	WOS:000376141900001	LAI, JX;MAO, S;QIU, JL;FAN, HB;ZHANG, Q;HU, ZN;CHEN,	MATH PROBL ENG, 2016	ENGINEERING	33

			JX			
18	BENDING AND BUCKLING OF NONLOCAL STRAIN GRADIENT ELASTIC BEAMS	WOS:000390470300032	XU, XJ;WANG, XC;ZHENG, ML;MA, Z	COMPOS STRUCT, 2017, 160: 366-377	MATERIALS SCIENCE	30
19	PROGRESS, OPPORTUNITIES, AND KEY FIELDS FOR GROUNDWATER QUALITY RESEARCH UNDER THE IMPACTS OF HUMAN ACTIVITIES IN CHINA WITH A SPECIAL FOCUS ON WESTERN CHINA	WOS:000401566600006	LI, PY;TIAN, R;XUE, CY;WU, JH	ENVIRON SCI POLLUT RES, 2017, 24 (15): 13224-13234	ENVIRONMENT/ECOLOGY	28
20	SINGLE IMAGE SUPER-RESOLUTION VIA LOCALLY REGULARIZED ANCHORED NEIGHBORHOOD REGRESSION AND NONLOCAL MEANS	WOS:000391475200002	JIANG, JJ;MA, X;CHEN, C;LU, T;WANG, ZY;MA, JY	IEEE TRANS MULTIMEDIA, 2017, 19 (1): 15-26	COMPUTER SCIENCE	25
21	GLOBAL ASYMPTOTIC STABILITY OF CNNS WITH IMPULSES AND MULTI-PROPORTIONAL DELAYS	WOS:000370234600010	SONG, XL;ZHAO, P;XING, ZW;PENG, JG	MATH METH APPL SCI, 2016, 39 (4): 722-733	MATHEMATICS	18
22	CHARACTERISTICS OF SEISMIC DISASTERS AND ASEISMIC MEASURES OF TUNNELS IN WENCHUAN EARTHQUAKE	WOS:000393021400036	LAI, JX;HE, SY;QIU, JL;CHEN, JX;WANG, LX;WANG, K;WANG, JB	ENVIRON EARTH SCI, 2017, 76 (2)	ENVIRONMENT/ECOLOGY	16
23	DEFORMATION AND MECHANICAL MODEL OF TEMPORARY SUPPORT SIDEWALL IN TUNNEL CUTTING	WOS:000390498600004	LUO, YB;CHEN, JX;HUANG, P;TANG,	TUNN UNDERGR SPACE	ENGINEERING	16

	PARTIAL SECTION		MQ;QIAO, X;LIU, Q	TECHNOL, 2017, 61: 40-49		
24	THE CATASTROPHIC LANDSIDE IN MAOXIAN COUNTY, SICHUAN, SW CHINA, ON JUNE 24, 2017	WOS:000415325500026	QIU, JL;WANG, XL;HE, SY;LIU, HQ;LAI, JX;WANG, LX	NATURAL HAZARDS, 2017, 89 (3): 1485-1493	GEOSCIENCES	16
25	MESOPOROUS MANGANESE OXIDE WITH LARGE SPECIFIC SURFACE AREA FOR HIGH-PERFORMANCE ASYMMETRIC SUPERCAPACITOR WITH ENHANCED CYCLING STABILITY	WOS:000406138400005	GU, JM;FAN, XY;LIU, X;LI, SH;WANG, Z;TANG, SF;YUAN, DL	CHEM ENG J, 2017, 324: 35-43	ENGINEERING	16
26	SIMULATION OF COMBINED CONDUCTIVE, CONVECTIVE AND RADIATIVE HEAT TRANSFER IN MOVING IRREGULAR POROUS FINS BY SPECTRAL ELEMENT METHOD	WOS:000403855000035	MA, J;SUN, YS;LI, BW	INT J THERM SCI, 2017, 118: 475-487	ENGINEERING	15
27	A STATE-OF-THE-ART REVIEW OF SUSTAINABLE ENERGY BASED FREEZE PROOF TECHNOLOGY FOR COLD-REGION TUNNELS IN CHINA	WOS:000418574800110	LAI, JX;WANG, XL;QIU, JL;ZHANG, GZ;CHEN, JX;XIE, YL;LUO, YB	RENEW SUSTAIN ENERGY REV, 2018, 82: 3554-3569	ENGINEERING	15
28	A NEW HIGH ALGEBRAIC ORDER EFFICIENT FINITE DIFFERENCE METHOD FOR THE SOLUTION OF THE	WOS:000416115500029	DONG, M;SIMOS, TE	FILOMAT, 2017, 31 (15): 4999-5012	MATHEMATIC S	8

	SCHRODINGER EQUATION					
29	DISTRIBUTION AND CHARACTERISTICS OF LANDSLIDE IN LOESS PLATEAU: A CASE STUDY IN SHAANXI PROVINCE	WOS:00043002800010	ZHUANG, JQ;PENG, JB;WANG, GH;JAVED, I;WANG, Y;LI, W	ENG GEOL, 2018, 236: 89-96	GEOSCIENCES	7
30	IMPROVING CRACKING RESISTANCE OF CEMENT MORTAR BY THERMO-SENSITIVE POLY N-ISOPROPYL ACRYLAMIDE (PNIPAM) GELS	WOS:000423648000113	WANG, ZJ;WU, JY;ZHAO, P;DAI, N;ZHAI, ZW;AI, T	J CLEAN PROD, 2018, 176: 1292-1303	ENGINEERING	7
31	MOF-DERIVED POROUS N-CO ₃ O ₄ @N-C NANODODECAHEDRA WRAPPED WITH REDUCED GRAPHENE OXIDE AS A HIGH CAPACITY CATHODE FOR LITHIUM-SULFUR BATTERIES	WOS:000424466300041	XU, J;ZHANG, WX;CHEN, Y;FAN, HB;SU, DW;WANG, GX	J MATER CHEM A, 2018, 6 (6): 2797-2807	MATERIALS SCIENCE	6
32	CHALLENGES AND PROSPECTS OF SUSTAINABLE GROUNDWATER MANAGEMENT IN AN AGRICULTURAL PLAIN ALONG THE SILK ROAD ECONOMIC BELT, NORTH-WEST CHINA	WOS:000430045800003	CHEN, J;WU, H;QIAN, H;LI, XY	INT J WATER RESOUR DEV, 2018, 34 (3): 354-368	ENVIRONMEN T/ECOLOGY	6
33	GIS-BASED LANDSLIDE SUSCEPTIBILITY EVALUATION USING A NOVEL HYBRID INTEGRATION APPROACH OF BIVARIATE STATISTICAL BASED RANDOM FOREST METHOD	WOS:000430031800015	CHEN, W;XIE, XS;PENG, JB;SHAHABI, H;HONG, HY;BUI,	CATENA, 2018, 164: 135-149	AGRICULTURA L SCIENCES	6

			DT;DUAN, Z;LI, SJ;ZHU, AX			
34	SIMPLE METHOD TO PREDICT GROUND DISPLACEMENTS CAUSED BY INSTALLING HORIZONTAL JET-GROUTING COLUMNS	WOS:000424800500001	WANG, ZF;SHEN, JS;CHENG, WC	MATH PROBL ENG, 2018	ENGINEERING	6
35	CONJUNCTIVE USE OF GROUNDWATER AND SURFACE WATER TO REDUCE SOIL SALINIZATION IN THE YINCHUAN PLAIN, NORTH-WEST CHINA	WOS:000430045800002	LI, PY;QIAN, H;WU, JH	INT J WATER RESOUR DEV, 2018, 34 (3): 337-353	ENVIRONMEN T/ECOLOGY	5
36	EVALUATION OF ASPHALT-AGGREGATE INTERACTION BASED ON THE RHEOLOGICAL PROPERTIES	WOS:000432547900003	ZHANG, JP;FAN, ZP;HU, DL;HU, Z;PEI, JZ;KONG, WC	INT J PAVEMENT ENG, 2018, 19 (7): 586-592	ENGINEERING	5
37	LONGITUDINAL DEFORMATION PROFILE OF A TUNNEL IN WEAK ROCK MASS BY USING THE BACK ANALYSIS METHOD	WOS:000418212600041	LUO, YB;CHEN, JX;CHEN, Y;DIAO, PS;QIAO, X	TUNN UNDERGR SPACE TECHNOL, 2018, 71: 478-493	ENGINEERING	5
38	IMPACT OF FOREST MAINTENANCE ON WATER SHORTAGES: HYDROLOGIC MODELING AND EFFECTS OF CLIMATE CHANGE	WOS:000414922600139	LUO, PP;ZHOU, M;DENG, H;LYU, J;CAO, W;TAKARA, K;NOVER, D;SCHLADOW,	SCI TOTAL ENVIR, 2018, 615: 1355-1363	ENVIRONMEN T/ECOLOGY	4

			SG			
39	GEOCHEMISTRY, HYDRAULIC CONNECTIVITY AND QUALITY APPRAISAL OF MULTILAYERED GROUNDWATER IN THE HONGDUNZI COAL MINE, NORTHWEST CHINA	WOS:000431882400002	LI, PY;WU, JH;TIAN, R;HE, S;HE, XD;XUE, CY;ZHANG, K	MINE WATER ENVIRON, 2018, 37 (2): 222-237	ENVIRONMEN T/ECOLOGY	4

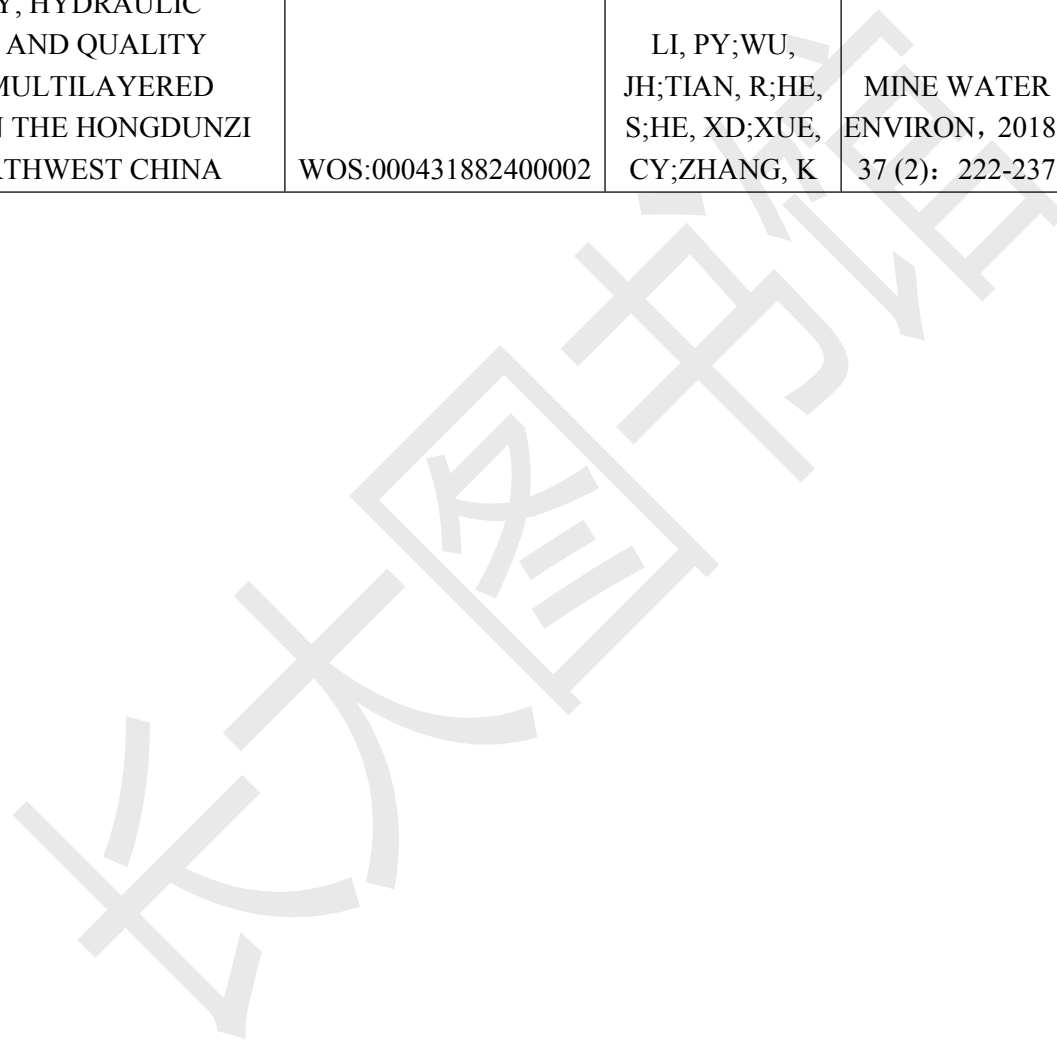


表 2 长安大学 ESI 热点引论文简况 (按 ESI 被引频次排序)

序号	论文名称	WOS 号	作者	来源期刊	ESI 学科	ESI 被引次数
1	GIS-BASED LANDSLIDE SUSCEPTIBILITY EVALUATION USING A NOVEL HYBRID INTEGRATION APPROACH OF BIVARIATE STATISTICAL BASED RANDOM FOREST METHOD	WOS:000430031800015	CHEN, W;XIE, XS;PENG, JB;SHAHABI, H;HONG, HY;BUI, DT;DUAN, Z;LI, SJ;ZHU, AX	CATENA, 2018, 164: 135-149	AGRICULTURAL SCIENCES	6
2	STUDY ON HIGHLY ENHANCED PHOTOCATALYTIC TETRACYCLINE DEGRADATION OF TYPE II AGI/CUBI2O4 AND Z-SCHEME AGBR/CUBI2O4 HETEROJUNCTION PHOTOCATALYSTS	WOS:000428101400013	GUO, F;SHI, WL;WANG, HB;HAN, MM;GUAN, WS;HUANG, H;LIU, Y;KANG, ZH	J HAZARD MATER, 2018, 349: 111-118	ENGINEERING	4

39 篇高被引论文的分布院系为：环境科学与工程学院 14 篇，位居首位；公路学院 9 篇；汽车学院 5 篇；信息学院 4 篇；材料学院 3 篇；地质工程与测绘学院 2 篇；地球科学与资源学院 1 篇；理学院 1 篇。

2 篇热点论文的分布院系为：地质工程与测绘学院 1 篇；环境科学与工程学院 1 篇。

二. 我校 ESI 前 1% 学科概况与预测

本期我校工程学学科依然保持全球排名前 1%，在工程学领域共发表 ESI 论文 998 篇，被引用 4, 434 次，其中高被引论文 16 篇。本期全球有 1396 所机构（大陆机构 149 所）的工程学学科进入 ESI 全球排名前 1% 行列，我校位列 904 位。

表 3 我校 ESI 工程学排名

学科	中国大陆机构排名	ESI 排名	论文数	被引频次
工程学	92	904	998	4, 434

长安大学一级学科与 ESI 学科的对照：

ESI 是按照 SCI/SSCI 的期刊属性来对学科进行分类，该分类体系和我校的学科设置不能完全匹配，正因为这样，我校如果要在相关学科进入全球前 1%，全校师生都需要在该学科领域做出贡献。

表 4 ESI 学科与我校的学科对照表

ESI 学科	对应的我校一级学科	对应的学院
工程学	交通运输工程	公路学院
	材料科学与工程	材料科学与工程学院
	测绘科学与技术	地质工程与测绘学院
	环境科学与工程	环境科学与工程学院
	水利工程	环境科学与工程学院
	土木工程	建筑工程学院
	机械工程	汽车学院

地球科学	地质学	地质工程与测绘学院
		地球科学与资源学院
材料科学	材料科学与工程	材料科学与工程学院
		电子与控制工程学院
社会科学	管理科学与工程	经济与管理学院
	地理学	地质工程与测绘工程学院
经济与商业	经济学	经济与管理学院

下表为陕西省内高校进入全球前 1%的学科概况。

表 5 陕西省内高校 ESI 排名

省内排名	高校名称	论文篇数	总被引频次	进入前 1%的学科数	全球 ESI 排位
1	西安交通大学	39,874	372,567	14	364/5757
2	第四军医大学	11,442	146,285	6	834/5757
3	西北工业大学	18,777	130,776	4	916/5757
4	西北农林科技大学	13,676	115,368	6	1011/5757
5	西北大学	8,250	94,325	4	1167/5757
6	西安电子科技大学	13,669	82,045	2	1291/5757
7	陕西师范大学	8,019	66,857	4	1470/5757
8	长安大学	3,740	19,791	1	3180/5757
9	西安理工大学	3,458	16,334	2	3458/5757
10	陕西科技大学	2,668	16,631	1	3466/5757
11	西安建筑科技大学	2,598	16,193	1	3510/5757
12	西安医学院	1,306	8,081	1	4540/5757
13	空军工程大学	2,102	8,178	1	4518/5757

注：排名按照全球 ESI 排名先后顺序。

从本期 ESI 数据可以看出，我校目前最有潜力进入全球前 1%的学科是地球科学，已经非常接近了，其次是环境/生态学，也有很大潜力（见图 1）。但是其

他学科要有所突破进入全球前 1%，还具有相当大的难度，还需要全校科研人员共同努力。

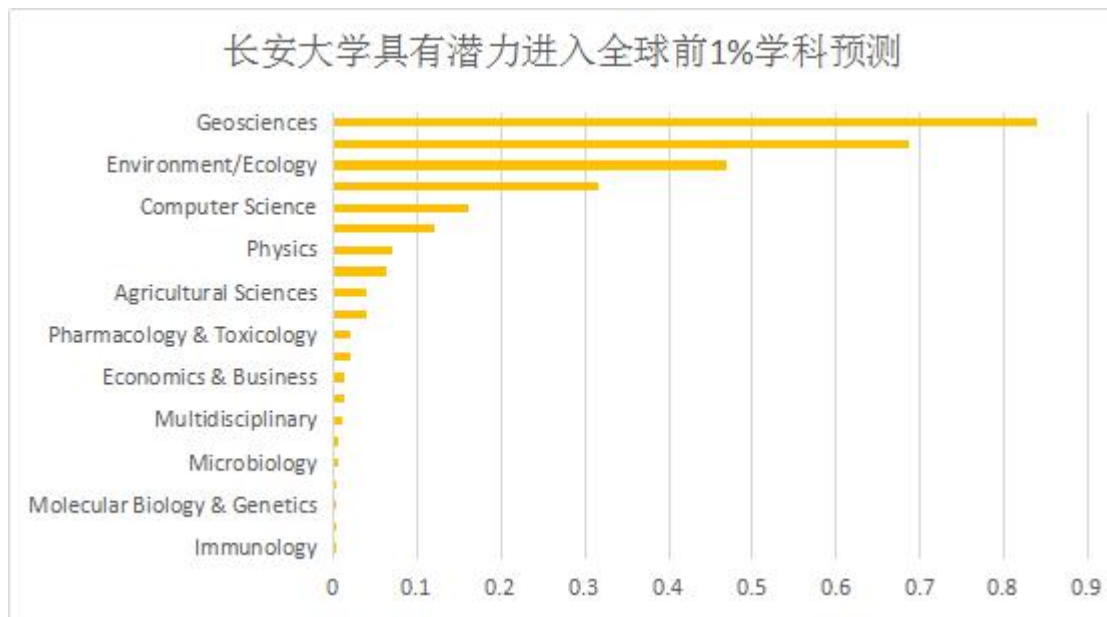


图 1 长安大学具有潜力进入全球前 1%学科预测

下表 6 是地球科学目前已经进入全球前 1%的 24 所大陆高校的论文情况，在此做了一个统计，与我校地球科学论文情况作了对比（表 7），以便参考。

表 6 地球科学学科进入全球前 1%的大陆 24 所高校的论文情况

序号	机构名称	Web of Science 近十年收录论文数	总被引次数	篇均被引次数	顶尖论文数
1	中国地质大学	8555	104504	12.22	129
2	北京大学	3991	66612	16.69	100
3	南京大学	3501	43043	12.29	33
4	北京师范大学	2645	31505	11.91	53
5	西北大学	1034	25002	24.18	31
6	清华大学	1681	24783	14.74	52
7	武汉大学	2986	24399	8.17	43
8	兰州大学	1641	23176	14.12	29
9	中国科学技术大学	1625	21857	13.45	24
10	中国海洋大学	2378	21707	9.13	30
11	南京信息工程大学	2831	19901	7.03	34
12	中国石油大学	3459	17912	5.18	43
13	吉林大学	1714	15320	8.94	10
14	中国矿业大学	1815	14653	8.07	32
15	西安交通大学	736	14079	19.13	17
16	同济大学	1509	12795	8.48	11
17	中山大学	1385	11634	8.40	14

18	浙江大学	1246	10569	8.48	10
19	中南大学	1113	8280	7.44	16
20	华东师范大学	721	7928	11.00	13
21	成都理工大学	1098	7770	7.08	5
22	南京师范大学	445	6302	14.16	13
23	河海大学	986	6220	6.31	9
24	复旦大学	483	6158	12.75	5

表 7 长安大学地球科学论文情况

	Web of Science 近十年收录论文数	总被引次数	篇均被引次数
长安大学	696	4997	7.18

数据源简介：

Essential Science Indicators（基本科学指标，简称 ESI）是一个基于 Web of Science 核心合集数据库的深度分析型研究工具。ESI 可以确定在某个研究领域有影响力的国家、机构、论文和出版物，以及研究前沿。这种独特而全面的基于论文产出和引文影响力深入分析的数据是政府机构、大学、企业、实验室、出版公司和基金会的决策者、管理者、情报分析人员和信息专家理想的分析资源。通过 ESI，用户可以对科研绩效和发展趋势进行长期的定量分析。基于期刊论文发表数量和引文数据，ESI 提供对 22 个学科研究领域中的国家、机构和期刊的科研绩效统计和科研实力排名。

ESI 高被引论文（Highly Cited Paper）是指在近十多年的论文中按照同一年、同一 ESI 学科论文的被引频次由高到低进行排序，排在前 1% 的论文。从理论上讲，如果一篇论文被引频次达到前 1% 则说明该论文达到学科较高水平，具有较高的影响力。ESI 热点论文（Hot Paper）：是指近 2 年内发表的论文且在近 2 个月内被引次数排在相应学科领域全球前 1% 以内。

附录 1：长安大学 ESI 高被引论文（2018 年 11 月更新）

第 1 条，共 39 条

标题: Combustion and performance evaluation of a diesel engine fueled with biodiesel produced from soybean crude oil

作者: Qi, DH (Qi, D. H.); Geng, LM (Geng, L. M.); Chen, H (Chen, H.); Bian, YZ (Bian, Y. Zh.); Liu, J (Liu, J.); Ren, XC (Ren, X. Ch.)

来源出版物: RENEWABLE ENERGY 卷: 34 期: 12 页: 2706-2713 DOI: 10.1016/j.renene.2009.05.004 出版年: DEC 2009

Web of Science 核心合集中的 "被引频次": 195

被引频次合计: 198

使用次数 (最近 180 天): 1

使用次数 (2013 年至今): 31

摘要: In this study, the biodiesel produced from soybean crude oil was prepared by a method of alkaline-catalyzed transesterification. The important properties of biodiesel were compared with those of diesel. Diesel and biodiesel were used as fuels in the compression ignition engine, and its performance, emissions and combustion characteristics of the engine were analyzed. The results showed that biodiesel exhibited the similar combustion stages to that of diesel, however, biodiesel showed an earlier start of combustion. At lower engine loads, the peak cylinder pressure, the peak rate of pressure rise and the peak of heat release rate during premixed combustion phase were higher for biodiesel than for diesel. At the peak cylinder pressure of biodiesel was almost similar to that of diesel, but the her engine loads, the peak rate of pressure rise and the peak of heat release rate were lower for biodiesel. The power output of biodiesel was almost identical with that of diesel. The brake specific fuel consumption was higher for biodiesel due to its lower heating value. Biodiesel provided significant reduction in CO, HC, NOx and smoke under speed characteristic at full engine load. Based on this study, biodiesel can be used as a substitute for diesel in diesel engine. (C) 2009 Elsevier Ltd. All rights reserved.

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文献类型: Article

作者关键词: Biodiesel; Soybean crude oil; Combustion; Emissions; Performance

KeyWords Plus: EMISSION; ESTERS

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ESI 高被引论文: Y

ESI 热点论文: N

第 2 条, 共 39 条

标题: Performance and combustion characteristics of biodiesel-diesel-methanol blend fuelled

engine

作者: Qi, DH (Qi, D. H.); Chen, H (Chen, H.); Geng, LM (Geng, L. M.); Bian, YZ (Bian, Y. Zh); Ren, XC (Ren, X. Ch)

来源出版物: APPLIED ENERGY 卷: 87 期: 5 页: 1679-1686 DOI: 10.1016/j.apenergy.2009.10.016 出版年: MAY 2010

Web of Science 核心合集中的 "被引频次": 134

被引频次合计: 139

使用次数 (最近 180 天): 1

使用次数 (2013 年至今): 31

摘要: An experimental investigation was conducted to evaluate the effects of using methanol as additive to biodiesel-diesel blends on the engine performance, emissions and combustion characteristics of a direct injection diesel engine under variable operating conditions. BD50 (50% biodiesel and 50% diesel in vol.) was prepared as the baseline fuel. Methanol was added to BD50 as an additive by volume percent of 5% and 10% (denoted as BDM5 and BDM10). The results indicate that the combustion starts later for BDM5 and BDM10 than for BD50 at low engine load, but is almost identical at high engine load. At low engine load of 1500 r/min, BDM5 and BDM10 show the similar peak cylinder pressure and peak of pressure rise rate to BD50, and higher peak of heat release rate than that of BD50. At low engine load of 1800 r/min, the peak cylinder pressure and the peak of pressure rise rate of BDM5 and BDM10 are lower than those of BD50, and the peak of heat release rate is similar to that of BD50. The crank angles at which the peak values occur are later for BDM5 and BDM10 than for BD50. At high engine load, the peak cylinder pressure, the peak of pressure rise rate and peak of heat release rate of BDM5 and BDM10 are higher than those of BD50, and the crank angle of peak values for all tested fuels are almost same. The power and torque outputs of BDM5 and BDM10 are slightly lower than those of BD50. BDM5 and BDM10 show dramatic reduction of smoke emissions. CO emissions are slightly lower, and NO_x and HC emissions are almost similar to those of BD50 at speed characteristic of full engine load. (C) 2009 Elsevier Ltd. All rights reserved.

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文献类型: Article

作者关键词: Biodiesel; Methanol; Combustion characteristics; Emissions; Performance

KeyWords Plus: COMPRESSION IGNITION ENGINE; ETHANOL BLEND; EMISSIONS; OIL; REDUCTION; BIOFUELS; TALLOW

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研究方向: Energy & Fuels; Engineering

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ESI 高被引论文: Y

ESI 热点论文: N

第 3 条, 共 39 条

标题: Experimental studies on the combustion characteristics and performance of a direct injection engine fueled with biodiesel/diesel blends

作者: Qi, DH (Qi, D. H.); Chen, H (Chen, H.); Geng, LM (Geng, L. M.); Bian, YZ (Bian, Y. Zh.)

来源出版物: ENERGY CONVERSION AND MANAGEMENT 卷: 51 期: 12 页: 2985-2992 DOI: 10.1016/j.enconman.2010.06.042 出版年: DEC 2010

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被引频次合计: 180

使用次数 (最近 180 天): 1

使用次数 (2013 年至今): 37

摘要: Biodiesel is an alternative diesel fuel that can be produced from different kinds of vegetable oils. It is an oxygenated, non-toxic, sulphur-free, biodegradable, and renewable fuel and can be used in diesel engines without significant modification. However, the performance, emissions and combustion characteristics will be different for the same biodiesel used in different types of engine.

In this study, the biodiesel produced from soybean crude oil was prepared by a method of alkaline-catalyzed transesterification. The effects of biodiesel addition to diesel fuel on the performance, emissions and combustion characteristics of a naturally aspirated DI compression ignition engine were examined. Biodiesel has different properties from diesel fuel. A minor increase in brake specific fuel consumption (BSFC) and decrease in brake thermal efficiency (BTE) for biodiesel and its blends were observed compared with diesel fuel. The significant improvement in reduction of carbon monoxide (CO) and smoke were found for biodiesel and its blends at high engine loads. Hydrocarbon (HC) had no evident variation for all tested fuels. Nitrogen oxides (NO(x)) were slightly higher for biodiesel and its blends. Biodiesel and its blends exhibited similar combustion stages to diesel fuel. The use of transesterified soybean crude oil can be partially substituted for the diesel fuel at most operating conditions in terms of the performance parameters and emissions without any engine modification. (C) 2010 Elsevier Ltd. All rights reserved.

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文献类型: Article

作者关键词: Biodiesel; Soybean crude oil; Combustion characteristics; Exhaust emissions; Performance

KeyWords Plus: DIESEL-ENGINE; METHYL-ESTER; COOKING OIL; EMISSIONS;

SUNFLOWER; JATROPHA; KARANJA

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来源出版物页码计数: 8

ESI 高被引论文: Y

ESI 热点论文: N

第 4 条, 共 39 条

标题: Microwave-assisted in situ synthesis of reduced graphene oxide-BiVO₄ composite photocatalysts and their enhanced photocatalytic performance for the degradation of ciprofloxacin

作者: Yan, Y (Yan, Yan); Sun, SF (Sun, Shaofang); Song, Y (Song, Yang); Yan, X (Yan, Xu); Guan, WS (Guan, Weisheng); Liu, XL (Liu, Xinlin); Shi, WD (Shi, Weidong)

来源出版物: JOURNAL OF HAZARDOUS MATERIALS 卷: 250 页: 106-114 DOI: 10.1016/j.jhazmat.2013.01.051 出版年: APR 15 2013

Web of Science 核心合集中的 "被引频次": 96

被引频次合计: 105

使用次数 (最近 180 天): 16

使用次数 (2013 年至今): 416

摘要: To improve the photodegradation efficiency for ciprofloxacin (CIP), a new-type microwave-assisted in situ growth method is developed for the preparation of reduced graphene oxide (RGO) -BiVO₄ composite photocatalysts. The as-produced RGO-BiVO₄ composite photocatalysts show extremely high enhancement of CIP degradation ratio over the pure BiVO₄ photocatalyst under visible light. Specially, the 2 wt% RGO-BiVO₄ composite photocatalyst exhibits the highest CIP degradation ratio (68.2%) in 60 min, which is over 3 times than that (22.7%) of the pure BiVO₄ particles. The enhancement of photocatalytic activities of RGO-BiVO₄ photocatalysts can be attributed to the effective separation of electron-hole pairs rather than the improvement of light absorption. (C) 2013 Elsevier B.V. All rights reserved.

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文献类型: Article

作者关键词: Microwave-assisted method; Photocatalyst; BiVO₄; Reduced graphene oxide; Ciprofloxacin

KeyWords Plus: VISIBLE-LIGHT IRRADIATION; MONOCLINIC BISMUTH VANADATE;

EXFOLIATED GRAPHITE OXIDE; NANO-SIZED BIVO₄; PHOTOELECTROCHEMICAL DECOMPOSITION; SEMICONDUCTOR COLLOIDS; HYDROGEN-PRODUCTION; FILM ELECTRODES; WATER OXIDATION; NANOSHEETS

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ESI 高被引论文: Y

ESI 热点论文: N

第 5 条, 共 39 条

标题: Microwave synthesis of a novel magnetic imprinted TiO₂ photocatalyst with excellent transparency for selective photodegradation of enrofloxacin hydrochloride residues solution

作者: Lu, ZY (Lu, Ziyang); Chen, F (Chen, Fei); He, M (He, Ming); Song, MS (Song, Minshan); Ma, ZF (Ma, Zhongfei); Shi, WD (Shi, Weidong); Yan, YS (Yan, Yongsheng); Lan, JZ (Lan, Jinze); Li, F (Li, Fang); Xiao, P (Xiao, Peng)

来源出版物: CHEMICAL ENGINEERING JOURNAL 卷: 249 页: 15-26 DOI: 10.1016/j.cej.2014.03.077 出版年: AUG 1 2014

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被引频次合计: 88

使用次数 (最近 180 天): 31

使用次数 (2013 年至今): 233

摘要: Magnetic imprinted TiO₂ photocatalyst (MITP) with excellent transparency was prepared via a microwave heating method based on enrofloxacin hydrochloride (ENRH) as the template molecule, methyl methacrylate (MMA) as the functional monomer, and TiO₂@SiO₂@Fe₃O₄ (TSF) as the matrix material. TSF was synthesized by a mild sol-gel method. The results indicated that MITP possessed hierarchical spherical structure, good monodispersity, superior magnetic properties ($M_s = 11.59 \text{ emu/g}$), the average diameter was approximately 410 nm, and the surface-imprinted layer was composed of the imprinted polymer and poly (methyl methacrylate). Moreover, MITP was proved to exhibit an excellent photochemical stability and a higher photocatalytic efficiency than other photocatalysts, the apparent rate constant (k) for degradation of ENRH with MITP in 90 min under the visible light irradiation was 1.08 min^{-1} . The coefficient

of selectivity (k(selecoivity)) of MITP relative to TSF and magnetic non-imprinted TiO₂ photocatalyst (MNITP) was 2.14 and 2.08, respectively, indicating that MITP also possessed the strong ability to selective recognition and photodegradation of ENRH in the binary antibiotic residues solution containing ENRH and tetracycline (TC). In addition, the mechanism and intermediate products of selective photodegradation of the binary antibiotic residues solution with MITP were further discussed. (C) 2014 Elsevier B.V. All rights reserved.

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文献类型: Article

作者关键词: Enrofloxacin hydrochloride; Magnetic imprinted photocatalyst; Microwave heating method; Poly (methyl methacrylate); Selective photodegradation; Surface imprinting technology

KeyWords Plus: SOLAR LIGHT IRRADIATION; TITANIUM-DIOXIDE; WATER-TREATMENT; WASTE-WATER; REMOVAL; DEGRADATION; ANTIBIOTICS; PERFORMANCE; MICROSPHERES; POLYMER

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ESI 热点论文: N

第 6 条, 共 39 条

标题: Nutrient and organics removal from swine slurry with simultaneous electricity generation in an alum sludge-based constructed wetland Incorporating microbial fuel cell technology

作者: Doherty, L (Doherty, Liam); Zhao, YQ (Zhao, Yaqian); Zhao, XH (Zhao, Xiaohong); Wang, WK (Wang, Wenke)

来源出版物: CHEMICAL ENGINEERING JOURNAL 卷: 266 页: 74-81 DOI: 10.1016/j.cej.2014.12.063 出版年: APR 15 2015

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被引频次合计: 55

使用次数 (最近 180 天): 10

使用次数 (2013 年至今): 191

摘要: This study investigates the ability of four alum sludge-based constructed wetlands, incorporating microbial fuel cell technology, to achieve high organic and nutrient removal from swine slurry while simultaneously producing electricity. As a cross-comparison the effects of electrode spacing and flow pattern are investigated. By providing a simultaneous upflow-downflow regime the maximum power density is boosted by 70% to 0.268 W/m³ and an ammonium removal efficiency of 75% is achieved. However, the COD removal efficiency falls to 64% compared with 80%, 79% and 81% achieved by operating with a continuous upflow regime in the other three systems of the study. The alum sludge wetland medium showed an enhanced capacity to immobilise phosphorous with total phosphorous and reactive phosphorous removal rates of 85-86% and 89-90%, respectively. Accordingly, multi-stage hybrid CW-MFC systems and alternative operational strategies are discussed and recommended for full nutrient and organic removal. (C) 2014 Elsevier B.V. All rights reserved.

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文献类型: Article

作者关键词: Microbial fuel cell; Constructed wetland; Electricity; Wastewater treatment; Nutrient removal

KeyWords Plus: LIVESTOCK WASTE-WATER; NITROGEN REMOVAL; PERFORMANCE; IRELAND; CATHODE; SYSTEM; SCALE; MFC; CONFIGURATION; SUBSTRATE

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ESI 高被引论文: Y

ESI 热点论文: N

第 7 条, 共 39 条

标题: Uranium and molybdenum isotope evidence for an episode of widespread ocean oxygenation during the late Ediacaran Period

作者: Kendall, B (Kendall, Brian); Komiya, T (Komiya, Tsuyoshi); Lyons, TW (Lyons, Timothy W.); Bates, SM (Bates, Steve M.); Gordon, GW (Gordon, Gwyneth W.); Romaniello, SJ

(Romaniello, Stephen J.); Jiang, GQ (Jiang, Ganqing); Creaser, RA (Creaser, Robert A.); Xiao, SH (Xiao, Shuhai); McFadden, K (McFadden, Kathleen); Sawaki, Y (Sawaki, Yusuke); Tahata, M (Tahata, Miyuki); Shu, DG (Shu, Degan); Han, J (Han, Jian); Li, Y (Li, Yong); Chu, XL (Chu, Xuelei); Anbar, AD (Anbar, Ariel D.)

来源出版物: GEOCHIMICA ET COSMOCHIMICA ACTA 卷: 156 页: 173-193 DOI: 10.1016/j.gca.2015.02.025 出版年: MAY 1 2015

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使用次数 (最近 180 天): 6

使用次数 (2013 年至今): 129

摘要: To improve estimates of the extent of ocean oxygenation during the late Ediacaran Period, we measured the U and Mo isotope compositions of euxinic (anoxic and sulfidic) organic-rich mudrocks (ORM) of Member IV, upper Doushantuo Formation, South China. The average $\delta U-238$ of most samples is 0.24 ± 0.16 parts per thousand (2SD; relative to standard CRM145), which is slightly higher than the average $\delta U-238$ of 0.02 ± 0.12 parts per thousand for restricted Black Sea (deep-water Unit I) euxinic sediments and is similar to a modeled $\delta U-238$ value of 0.2 parts per thousand for open ocean euxinic sediments in the modern well-oxygenated oceans. Because U-238 is preferentially removed to euxinic sediments compared to U-235, expanded ocean anoxia will deplete seawater of U-238 relative to U-235, ultimately leading to deposition of ORM with low $\delta U-238$. Hence, the high $\delta U-238$ of Member IV ORM points to a common occurrence of extensive ocean oxygenation ca. 560 to 551 Myr ago.

The Mo isotope composition of sediments deposited from strongly euxinic bottom waters ($[H_2S](aq) > 11 \mu M$) either directly records the global seawater Mo isotope composition (if Mo removal from deep waters is quantitative) or represents a minimum value for seawater (if Mo removal is not quantitative). Near the top of Member IV, $\delta Mo-98$ approaches the modern seawater value of 2.34 ± 0.10 parts per thousand. High $\delta Mo-98$ points to widespread ocean oxygenation because the preferential removal of isotopically light Mo to sediments occurs to a greater extent in O₂-rich compared to O₂-deficient marine environments. However, the $\delta Mo-98$ value for most Member IV ORM is near 0 parts per thousand (relative to standard NIST SRM 3134 = 0.25 parts per thousand), suggesting extensive anoxia. The low $\delta Mo-98$ is at odds with the high Mo concentrations of Member IV ORM, which suggest a large seawater Mo inventory in well-oxygenated oceans, and the high $\delta U-238$. Hence, we propose that the low $\delta Mo-98$ of most Member IV ORM was fractionated from contemporaneous seawater. Possible mechanisms driving this isotope fractionation include: (1) inadequate dissolved sulfide for quantitative thiomolybdate formation and capture of a seawater-like $\delta Mo-98$ signature in sediments or (2) delivery of isotopically light Mo to sediments via a particulate Fe-Mn oxyhydroxide shuttle.

A compilation of Mo isotope data from euxinic ORM suggests that there were transient episodes of extensive ocean oxygenation that break up intervals of less oxygenated oceans during late Neoproterozoic and early Paleozoic time. Hence, Member IV does not capture irreversible deep ocean oxygenation. Instead, complex ocean redox variations likely marked the transition from O₂-deficient Proterozoic oceans to widely oxygenated later Phanerozoic oceans. (C) 2015 Elsevier Ltd. All rights reserved.

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文献类型: Article

KeyWords Plus: EARLY ANIMAL EVOLUTION; ANOXIC EVENT 2; SOUTH CHINA; BLACK-SEA; DOUSHANTUO FORMATION; METAZOAN EVOLUTION; EUXINIC SEDIMENTS; MARINE-SEDIMENTS; YANGTZE PLATFORM; MASS EXTINCTION

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第 8 条, 共 39 条

标题: Adsorption of cadmium by biochar derived from municipal sewage sludge: Impact factors and adsorption mechanism

作者: Chen, T (Chen Tan); Zhou, ZY (Zhou Zeyu); Han, R (Han Rong); Meng, RH (Meng Ruihong); Wang, HT (Wang Hongtao); Lu, WJ (Lu Wenjing)

来源出版物: CHEMOSPHERE 卷: 134 页: 286-293 DOI: 10.1016/j.chemosphere.2015.04.052 出版年: SEP 2015

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使用次数 (最近 180 天): 19

使用次数 (2013 年至今): 232

摘要: Static equilibrium experiments were carried out to investigate the impact factors and the mechanism of cadmium adsorption on biochar derived from municipal sewage sludge. An appropriate dosage of biochar is sufficient; in the experiment, 0.2% is the optimal dosage for the largest removal capacity, while the removal capacity of biochar reduces with the increasing dosage. pH is another dominant factor of the adsorption process. The removal capacity of biochar is lower than 20 mg.g(-1) when the solution initial pH is lower than 2 pH units, comparatively retaining more than 40 mg.g(-1) at the solution initial pH higher than 3 pH units. Temperature has weak influence on the adsorptive performance. The main mechanism of the adsorption process of biochar for cadmium mainly involves (1) surface precipitation by forming insoluble cadmium compounds in alkaline condition, and (2) ion exchange for cadmium with exchangeable cations in the biochar, such as calcium ions. (C) 2015 Elsevier Ltd. All rights reserved.

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PubMed ID: 25966459

文献类型: Article

作者关键词: Adsorption; Heavy metal; Biochar; Impact factor; Mechanism

KeyWords Plus: HEAVY-METAL IONS; AQUEOUS-SOLUTIONS; FAST PYROLYSIS; FLY-ASH; REMOVAL; WASTE; ADSORBENTS; WATER; GROUNDWATER; PERFORMANCE

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ESI 高被引论文: Y

ESI 热点论文: N

第 9 条, 共 39 条

标题: Building a new and sustainable "Silk Road economic belt"

作者: Li, PY (Li, Peiyue); Qian, H (Qian, Hui); Howard, KWF (Howard, Ken W. F.); Wu, JH (Wu, Jianhua)

来源出版物: ENVIRONMENTAL EARTH SCIENCES 卷: 74 期: 10 页: 7267-7270 DOI: 10.1007/s12665-015-4739-2 出版年: NOV 2015

Web of Science 核心合集集中的 "被引频次": 95

被引频次合计: 100

使用次数 (最近 180 天): 19

使用次数 (2013 年至今): 147

摘要: The building of the Silk Road economic belt is an exciting prospect that may bring immense economic benefits to Eurasian countries. However, intensive human activities to be induced by it may double the water crisis in central Asia, deteriorate the vulnerable environment, and accelerate energy consumption in this area. To build a new and sustainable Silk Road economic belt, advancing scientific research, reinforcing international collaboration and enhancing education are necessary steps. With careful planning, sound research, good data and the support from governments and the people, the Silk Road economic belt can be developed in an environmentally sustainable manner that is a credit to all involved.

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文献类型: Article

作者关键词: Silk Road; Water resources; Environmental protection; Energy saving; Human activity

KeyWords Plus: CHINA

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来源出版物页码计数: 4

ESI 高被引论文: Y

ESI 热点论文: N

第 10 条, 共 39 条

标题: Hydrochemical appraisal of groundwater quality for drinking and irrigation purposes and the major influencing factors: a case study in and around Hua County, China

作者: Li, PY (Li, Peiyue); Wu, JH (Wu, Jianhua); Qian, H (Qian, Hui)

来源出版物: ARABIAN JOURNAL OF GEOSCIENCES 卷: 9 期: 1 文献号: UNSP 15

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被引频次合计: 56

使用次数 (最近 180 天): 11

使用次数 (2013 年至今): 57

摘要: Groundwater is the major source of water for drinking and irrigation purposes in and around Hua County, China. However, long-term industrial effluents in the upstream of the area have produced contamination to groundwater. To provide a clear and better understanding of the status and extent of groundwater pollution to local decision makers, groundwater quality was assessed for drinking and irrigation purposes in this study using sodium adsorption ratio (SAR), residual sodium carbonate (RSC), soluble sodium percentage (%Na), permeability index (PI), an entropy weighted water quality index (EWQI), and some graphical approaches such as Wilcox and US Salinity Laboratory (USSL) diagrams. Factors that have significant influences on the hydrochemistry and quality of groundwater were also discussed in detail. Finally, some measures for the protection and management of groundwater in the study area were provided to local decision makers. The results show that shallow groundwater in and around the Hua County is mainly slightly alkaline freshwater with the majority of the samples falling in the category of HCO₃-Ca and mixed HCO₃ center dot SO₄-Ca center dot Mg. Medium quality water is prevalent in the study area for drinking purpose, and the main contaminants in groundwater are total dissolved solid (TDS), total hardness (TH), SO₄²⁻, Cl⁻, NO₃⁻, NO₂⁻, and oil. Groundwater in the study area is suitable for agricultural irrigation with regard to sodium hazard, but mixing of low and high salinity water is recommended before irrigation to reduce the salinity hazard in local areas. Natural processes such as weathering of parent rocks, cation exchange, and groundwater evaporation are the dominant factors influencing groundwater chemistry in the study area. However, river water leakage and human interference are becoming increasingly important in altering natural groundwater chemistry. The recommendations suggest in this study may help to prevent further groundwater pollution in the study area, and the results and recommendations reported here will also be useful for many other regions facing similar problems.

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文献类型: Article

作者关键词: Groundwater; Groundwater quality assessment; Hydrochemistry; Influencing factors; Human activity; Groundwater pollution

KeyWords Plus: NORTHWEST CHINA; PLAIN BURDUR/TURKEY; ALLUVIAL AQUIFER; PENGYANG COUNTY; SAUDI-ARABIA; INDIA; FLUORIDE; HYDROGEOCHEMISTRY;

SUITABILITY; MECHANISMS

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ESI 高被引论文: Y

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第 11 条, 共 39 条

标题: Investigation Progresses and Applications of Fractional Derivative Model in Geotechnical Engineering

作者: Lai, JX (Lai, Jinxing); Mao, S (Mao, Sheng); Qiu, JL (Qiu, Junling); Fan, HB (Fan, Haobo); Zhang, Q (Zhang, Qian); Hu, ZN (Hu, Zhinan); Chen, JX (Chen, Jianxun)

来源出版物: MATHEMATICAL PROBLEMS IN ENGINEERING 文献号: 9183296 DOI: 10.1155/2016/9183296 出版年: 2016

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使用次数 (最近 180 天): 21

使用次数 (2013 年至今): 95

摘要: Over the past couple of decades, as a new mathematical tool for addressing a number of tough problems, fractional calculus has been gaining a continually increasing interest in diverse scientific fields, including geotechnical engineering due primarily to geotechnical rheology phenomenon. Unlike the classical constitutive models in which simulation analysis gradually fails to meet the reasonable accuracy of requirement, the fractional derivative models have shown the merits of hereditary phenomena with long memory. Additionally, it is traced that the fractional derivative model is one of the most effective and accurate approaches to describe the rheology phenomenon. In relation to this, an overview aimed first at model structure and parameter determination in combination with application cases based on fractional calculus was provided. Furthermore, this review paper shed light on the practical application aspects of deformation analysis of circular tunnel, rheological settlement of subgrade, and relevant loess researches

subjected to the achievements acquired in geotechnical engineering. Finally, concluding remarks and important future investigation directions were pointed out.

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文献类型: Review

KeyWords Plus: EXPERIMENTAL VALIDATION; CONSTITUTIVE MODEL; POISSONS RATIO; CREEP; CALCULUS; ROCK; VISCOELASTICITY; PARAMETERS; BEHAVIOR; ASPHALT

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第 12 条, 共 39 条

标题: FOUR STAGES SYMMETRIC TWO-STEP P-STABLE METHOD WITH VANISHED PHASE-LAG AND ITS FIRST, SECOND, THIRD AND FOURTH DERIVATIVES

作者: Hui, F (Hui, Fei); Simos, TE (Simos, Theodore E.)

来源出版物: APPLIED AND COMPUTATIONAL MATHEMATICS 卷: 15 期: 2 页: 220-238 出版年: 2016

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使用次数 (最近 180 天): 0

使用次数 (2013 年至今): 6

摘要: In this paper we develop a new four-stages symmetric two-step P-Stable tenth algebraic order method with vanished phase-lag and its first, second, third and fourth derivatives. For this new two-step method we will investigate the following:

the construction of the new family of methods,

the local truncation error (LTE) of the new developed method and the error analysis,

the stability (interval of periodicity) of the new obtained method using a scalar test equation with frequency different than the frequency of the scalar test equation used for phase-lag analysis

(stability analysis),

the effectiveness of the new method with application on the coupled differential equations arising from the Schrodinger equation.

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文献类型: Article

作者关键词: Error Analysis; Stability Analysis; Coupled Differential Equations; Schrodinger equation

KeyWords Plus: INITIAL-VALUE-PROBLEMS; SCHRODINGER-EQUATION; NUMERICAL-SOLUTION; MULTISTEP METHODS; 4-STEP METHODS; HIGH-ORDER; INTEGRATION; SCATTERING

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ESI 热点论文: N

第 13 条, 共 39 条

标题: Predication of nonlinear heat transfer in a convective-radiative fin with temperature-dependent properties by the collocation spectral method

作者: Sun, YS (Sun, Yasong); Ma, J (Ma, Jing); Li, BW (Li, Benwen); Guo, ZX (Guo, Zhixiong)

来源出版物: NUMERICAL HEAT TRANSFER PART B-FUNDAMENTALS 卷: 69 期: 1

页: 68-83 DOI: 10.1080/10407782.2015.1081043 出版年: JAN 2 2016

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使用次数 (最近 180 天): 6

使用次数 (2013 年至今): 18

摘要: The applicability of the collocation spectral method (CSM) for solving nonlinear heat

transfer problems is demonstrated in a convective-radiative fin with temperature-dependent properties. In this method, the fin temperature distribution is approximated by Lagrange interpolation polynomials at spectral collocation points. The differential form of the energy equation is transformed to a matrix form of algebraic equations. The computational convergence of the CSM approximately follows an exponential decaying law; and thus, it is a very simple and effective approach for a rapid assessment of nonlinear physical problems. The effects of temperature-dependent properties such as thermal conductivity, surface emissivity, heat transfer coefficient, convection-conduction parameter, and radiation-conduction parameter on the fin temperature distribution and efficiency are discussed.

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文献类型: Article

KeyWords Plus: THERMAL-CONDUCTIVITY; MULTIPLE NONLINEARITIES; TRANSFER COEFFICIENT; GENERATION; EFFICIENCY; PLATES; FLOW

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ESI 热点论文: N

第 14 条, 共 39 条

标题: Global asymptotic stability of CNNs with impulses and multi-proportional delays

作者: Song, XL (Song Xueli); Zhao, P (Zhao Pan); Xing, ZW (Xing Zhiwei); Peng, JG (Peng Jigen)

来源出版物: MATHEMATICAL METHODS IN THE APPLIED SCIENCES 卷: 39 期: 4

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使用次数 (最近 180 天): 5

使用次数 (2013 年至今): 24

摘要: This paper is devoted to global asymptotic stability of cellular neural networks with impulses and multi-proportional delays. First, by means of the transformation $v(i)(t) = u(i)(e(t))$, the impulsive cellular neural networks with proportional delays are transformed into impulsive cellular neural networks with the variable coefficients and constant delays. Second, we prove the global exponential stability of the latter by nonlinear measure, and that the exponential stability of the latter implies the asymptotic stability of the former. We furthermore provide a sufficient condition to the existence, uniqueness, and the global asymptotic stability of the equilibrium point of the former. Our results are generalizations of some existing ones. Finally, an example and its simulation are presented to illustrate effectiveness of our method. Copyright (c) 2015 John Wiley & Sons, Ltd.

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文献类型: Article

作者关键词: global asymptotic stability; cellular neural networks; proportional delays; nonlinear measure

KeyWords Plus: CELLULAR NEURAL-NETWORKS; TIME-VARYING DELAYS; EXPONENTIAL STABILITY; DIFFERENTIAL-EQUATIONS

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ESI 高被引论文: Y

ESI 热点论文: N

第 15 条, 共 39 条

标题: Appraising Groundwater Quality and Health Risks from Contamination in a Semiarid Region of Northwest China

作者: Li, PY (Li, Peiyue); Li, XY (Li, Xinyan); Meng, XY (Meng, Xiangyi); Li, MN (Li, Mengna); Zhang, YT (Zhang, Yuting)

来源出版物: EXPOSURE AND HEALTH 卷: 8 期: 3 页: 361-379 DOI:

10.1007/s12403-016-0205-y 出版年: SEP 2016

Web of Science 核心合集中的 "被引频次": 56

被引频次合计: 57

使用次数 (最近 180 天): 28

使用次数 (2013 年至今): 123

摘要: This study assessed groundwater quality in a semiarid region of northwest China impacted by industrial and agricultural activities. The goal was to assess the quality of the water for drinking and irrigation, and the groundwater's effect on human health. Thirty-one groundwater samples were collected from monitoring and hand pumping wells. These wells were distributed over 54 km², with an average of 5.7 wells per 10 square kilometers. The samples were analyzed for pH, total dissolved solids (TDS), total hardness (TH), fluoride (F⁻), nitrate (NO₃-N), nitrite (NO₂-N), ammonia nitrogen (NH₄-N), major ions (Na⁺, K⁺, Ca²⁺, Mg²⁺, HCO₃⁻), SO₄²⁻, Cl⁻), and heavy metals (Cu, Mn, Zn, As and Cr⁶⁺). Groundwater chemistry was described using statistical analysis, and Piper and Gibbs diagrams. An entropy-based matter element extension analysis was performed to quantify the overall groundwater quality. The sodium adsorption ratio, residual sodium carbonate, and soluble sodium percentage were used to assess irrigation water quality. Considering resident age, sex, and exposure pathways, the non-carcinogenic and carcinogenic health risks were estimated using the models recommended by the Ministry of Environmental Protection of China. Study area groundwater was found to be slightly alkaline. For cations, Na⁺ was most abundant followed by Ca²⁺, then Mg²⁺, and then K⁺. For anions, HCO₃⁻ were more abundant than SO₄²⁻ and Cl⁻. Gibbs diagrams indicate that groundwater evaporation influences the development of sulfate-type groundwater, compared to the other groundwater types (bicarbonate and non-dominant types). The groundwater in most parts of the study area is of fair quality, and is marginally acceptable for multiple uses. TDS, TH, NH₄-N, NO₃-N, and Mn are common contaminants in the alluvial plain. These contaminants originate mainly from industrial and agricultural activities, as well as natural processes. Land irrigated with the groundwater is not exposed to a sodium hazard. However, measures are needed to manage the salinity hazard. The health risk assessment suggests that females and children face higher non-carcinogenic risk than males. The contribution of the contaminants to non-carcinogenic risk is in the following order: NO₃⁻ > F⁻ > As > Mn > NO₂⁻ > Cr > NH₄⁺ > Cu > Zn. Cr contributes more than As to the carcinogenic risk.

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文献类型: Article

作者关键词: Groundwater pollution; Water quality assessment; Health risk; Entropy weight; Matter element analysis; Human activity

KeyWords Plus: SET PAIR ANALYSIS; MATTER-ELEMENT MODEL; SHALLOW GROUNDWATER; EXTENSION THEORY; DRINKING-WATER; RIVER; FLUORIDE; AREA; SUITABILITY; POLLUTION

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第 16 条, 共 39 条

标题: Hydrogeochemical Characterization of Groundwater in and Around a Wastewater Irrigated Forest in the Southeastern Edge of the Tengger Desert, Northwest China

作者: Li, PY (Li, Peiyue); Wu, JH (Wu, Jianhua); Qian, H (Qian, Hui); Zhang, YT (Zhang, Yuting); Yang, NA (Yang, Nuan); Jing, LJ (Jing, Lijun); Yu, PY (Yu, Peiyuan)

来源出版物: EXPOSURE AND HEALTH 卷: 8 期: 3 页: 331-348 DOI: 10.1007/s12403-016-0193-y 出版年: SEP 2016

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使用次数 (2013 年至今): 92

摘要: Groundwater is an essential part of water resources for human survival and economic development in arid regions over the world. Human activities and environmental change have imposed significant impacts on groundwater environment. To investigate the hydrogeochemical characteristics and evolution of groundwater in and around a desert region impacted by wastewater irrigation, 84 groundwater samples were collected and analyzed for 18 indices. Statistical and graphical approaches were applied to delineate the general hydrochemical characteristics of groundwater and the major factors influencing its evolution. Stable isotopes of H-2 and O-18 were applied to identify groundwater evaporation process. Hydrogeochemical modeling was also adopted to quantify the major reactions occurring in the groundwater system. The results reveal that the abundance of cations is $\text{Na}^+ > \text{Ca}^{2+} > \text{Mg}^{2+} > \text{K}^+$ for groundwater in the entire study area, while the abundance of anions for groundwater in the desert region is $\text{HCO}_3^- > \text{Cl}^- > \text{SO}_4^{2-}$, and that for groundwater in the alluvial plain is $\text{HCO}_3^- > \text{SO}_4^{2-} > \text{Cl}^-$. Groundwater chemistry in the study area is mainly of rock dominance, and dissolution/precipitation of minerals and cation exchange are major natural factors governing the formation of groundwater chemistry. However, stable isotopes and the occurrence of nitrate show that shallow groundwater evaporation and human activities also have some impacts on groundwater quality. Hydrochemical type transits from Ca-Cl to HCO_3 center dot SO_4 -Ca type,

and then to HCO₃ center dot SO₄-Ca center dot Mg type along the flow path. The transition is influenced by multiple factors with water-rock interactions the predominant one. The water-rock interactions for the upper and lower sections of the flow path, indicated by hydrogeochemical modeling, are different due to different geologic and hydrogeologic conditions.

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文献类型: Article

作者关键词: Groundwater pollution; Water quality; Paper wastewater; Hydrogeochemical modeling; Tengger Desert

KeyWords Plus: SHALLOW GROUNDWATER; HYDROCHEMICAL CHARACTERISTICS; QUALITY ASSESSMENT; YELLOW-RIVER; SOUTHERN PART; COASTAL AREA; PLAIN; MECHANISMS; CHEMISTRY; POLLUTION

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第 17 条, 共 39 条

标题: Evaluation of Shallow Groundwater Contamination and Associated Human Health Risk in an Alluvial Plain Impacted by Agricultural and Industrial Activities, Mid-west China

作者: Wu, JH (Wu, Jianhua); Sun, ZC (Sun, Zhanchao)

来源出版物: EXPOSURE AND HEALTH 卷: 8 期: 3 页: 311-329 DOI: 10.1007/s12403-015-0170-x 出版年: SEP 2016

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使用次数 (2013 年至今): 107

摘要: Intensive human activities have caused contamination to groundwater quality which

consequently affects human health. In this study, an evaluation of groundwater quality was carried out for better understanding of the status of groundwater contamination and potential risks to local residents in an alluvial plain (China) where agricultural and industrial activities are intensive. Comprehensive water quality index was used for drinking water-quality assessment and sodium adsorption ratio, Na%, and residual sodium carbonate were applied for irrigation water-quality assessment. The human health risks caused by intake of the contaminated groundwater through the oral and dermal pathways were also assessed. The assessment results reveal that most of the water samples are generally suitable for irrigation purpose, but over 60 % of them are not fit for drinking, and the total hardness, NO₃ (-), NO₂ (-), TDS, SO₄ (2-), and F⁻ are the main contaminants affecting its suitability for drinking purpose. Residents in the study area are at high health risk, and NO₃ (-) originating mainly from industrial and agricultural pollution is the greatest contributory cause of the health risks. Furthermore, children in this area are at higher health risk than adults, and oral ingestion is the dominate exposure pathway of health risk. Therefore, urgent and efficient measures must be taken to combat groundwater pollution and reduce health risk in the area.

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文献类型: Article

作者关键词: Groundwater quality; Water-quality assessment; Human health risk; Human activity; Groundwater pollution

KeyWords Plus: WATER-QUALITY INDEX; NORTHWEST CHINA; DRINKING-WATER; RIVER-BASIN; PENGYANG COUNTY; WEIHE RIVER; POLLUTION; INDIA; AQUIFER; NITRATE

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ESI 热点论文: N

第 18 条, 共 39 条

标题: A High-Order Two-Step Phase-Fitted Method for the Numerical Solution of the Schrodinger

Equation

作者: Zhang, W (Zhang, Wei); Simos, TE (Simos, T. E.)

来源出版物: MEDITERRANEAN JOURNAL OF MATHEMATICS 卷: 13 期: 6 页: 5177-5194 DOI: 10.1007/s00009-016-0800-y 出版年: DEC 2016

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被引频次合计: 54

使用次数 (最近 180 天): 0

使用次数 (2013 年至今): 7

摘要: In this paper, we will develop a four-stage high algebraic order symmetric two-step method with vanished phase-lag and its first up to the fourth derivative. For the proposed method, we will study the following: the phase-lag analysis of the new method; the development of the new method; the local truncation error analysis which is based on the radial Schrodinger equation; the stability and the interval of periodicity analysis which is based on a scalar test equation with frequency different than the frequency of the scalar test equation used for the phase-lag analysis; the error estimation procedure which is based on the algebraic order; and the numerical results from our numerical tests for the examination of the efficiency of the new obtained method. The numerical tests are based on the numerical solution of the Schrodinger equation.

入藏号: WOS:000387090000085

文献类型: Article

作者关键词: Phase-lag; derivative of the phase-lag; initial value problems; oscillating solution; symmetric; multistep; hybrid; Schrodinger equation

KeyWords Plus: INITIAL-VALUE-PROBLEMS; MULTISTEP METHODS; ORBITAL PROBLEMS; INTEGRATION; LAG; SCATTERING

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第 19 条, 共 39 条

标题: Deformation and mechanical model of temporary support sidewall in tunnel cutting partial section

作者: Luo, YB (Luo, Yanbin); Chen, JX (Chen, Jianxun); Huang, P (Huang, Pei); Tang, MQ (Tang, Mingqing); Qiao, X (Qiao, Xiong); Liu, Q (Liu, Qin)

来源出版物: TUNNELLING AND UNDERGROUND SPACE TECHNOLOGY 卷: 61 页: 40-49 DOI: 10.1016/j.tust.2016.09.007 出版年: JAN 2017

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使用次数 (2013 年至今): 59

摘要: A large cross-section shallow tunnel excavated by center cross diagram method (CRD) was constructed on a site with weak surrounding rock. Crown settlement and horizontal convergence were extensively monitored to investigate the performance of a temporary support wall. Based on field observations, effects of zone excavation on the temporary support sidewall were analysed extensively. Influenced by earth pressure applied by a subsequently zone excavated, the deformation of the temporary support sidewall at upper bench successively undergoes convergence, expansion, convergence, expansion and stabilisation five stages; and the deformation at lower bench undergoes convergence, expansion and stabilisation three stages. Based on the deformation and restriction condition of the temporary support sidewall during tunnel excavation, a small curvature beam was used to simulate the stress and deformation change of the temporary support sidewall. Then, mechanical model of the temporary support sidewall under the surrounding rock horizontal pressure and the upper structure loads were suggested, respectively. The total deformation of the temporary support sidewall induced by zoned excavation can be determined by superposition the deformation caused by different loads. (C) 2016 Published by Elsevier Ltd.

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文献类型: Article

作者关键词: Lager cross-section tunnel; Temporary support wall; Deformation; Mechanical model

KeyWords Plus: EXCAVATION METHOD; CONSTRUCTION; STABILITY; DESIGN; ROCK

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第 20 条, 共 39 条

标题: Single Image Super-Resolution via Locally Regularized Anchored Neighborhood Regression and Nonlocal Means

作者: Jiang, JJ (Jiang, Junjun); Ma, X (Ma, Xiang); Chen, C (Chen, Chen); Lu, T (Lu, Tao); Wang, ZY (Wang, Zhongyuan); Ma, JY (Ma, Jiayi)

来源出版物: IEEE TRANSACTIONS ON MULTIMEDIA 卷: 19 期: 1 页: 15-26 DOI: 10.1109/TMM.2016.2599145 出版年: JAN 2017

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使用次数 (最近 180 天): 14

使用次数 (2013 年至今): 50

摘要: The goal of learning-based image super resolution (SR) is to generate a plausible and visually pleasing high-resolution (HR) image from a given low-resolution (LR) input. The SR problem is severely underconstrained, and it has to rely on examples or some strong image priors to reconstruct the missing HR image details. This paper addresses the problem of learning the mapping functions (i.e., projection matrices) between the LR and HR images based on a dictionary of LR and HR examples. Encouraged by recent developments in image prior modeling, where the state-of-the-art algorithms are formed with nonlocal self-similarity and local geometry priors, we seek an SR algorithm of similar nature that will incorporate these two priors into the learning from LR space to HR space. The nonlocal self-similarity prior takes advantage of the redundancy of similar patches in natural images, while the local geometry prior of the data space can be used to regularize the modeling of the nonlinear relationship between LR and HR spaces. Based on the above two considerations, we first apply the local geometry prior to regularize the patch representation, and then utilize the nonlocal means filter to improve the super-resolved outcome. Experimental results verify the effectiveness of the proposed algorithm compared with the state-of-the-art SR methods.

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文献类型: Article

作者关键词: Anchored neighborhood regression; locality geometry; neighbor embedding; nonlocal means; super-resolution (SR)

KeyWords Plus: SPARSE REPRESENTATION; FACE SUPERRESOLUTION; NOISE REMOVAL; INTERPOLATION; RECONSTRUCTION; REGISTRATION; HALLUCINATION; ALGORITHMS; RESOLUTION; DECISION

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第 21 条, 共 39 条

标题: Characteristics of seismic disasters and aseismic measures of tunnels in Wenchuan earthquake

作者: Lai, JX (Lai, Jinxing); He, SY (He, Siyue); Qiu, JL (Qiu, Junling); Chen, JX (Chen, Jianxun); Wang, LX (Wang, Lixin); Wang, K (Wang, Ke); Wang, JB (Wang, Junbao)

来源出版物: ENVIRONMENTAL EARTH SCIENCES 卷: 76 期: 2 文献号: UNSP 94

DOI: 10.1007/s12665-017-6405-3 出版年: JAN 2017

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摘要: Over the past few years, accompanied by big and frequent earthquakes, more attention was paid to the tunnel earthquake resistance. To reduce tunnel seismic damage and explore the reasonable aseismic measures, the tunnel earthquake disaster investigation was employed to analyze and summarize the tunnel seismic damage on the basis of Wenchuan earthquake. Fifty-two tunnels near the epicenter of Sichuan Province were investigated: Only 7 tunnels did not show structure damage, 6 tunnels suffered the most serious damage, and the rest appeared damage to various extents. It indicates that most serious seismic damage happens to fault fracture zone, followed by entrance and common section of the tunnel. Additionally, the results display that the

typical seismic damage of tunnels is lining cracking, collapsing, dislocation, construction joints cracking, and uplifting of invert, and usually lining cracking and collapsing account for a larger proportion. Therefore, the tunnel aseismic design should emphasize the fault fracture zone and tunnel entrance. Tunnel design should adopt the composite lining structure with shock absorber and whole chain alternative grouting to prevent the lining cracking and collapsing in the seismic fortification zone.

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文献类型: Article

作者关键词: Tunnel; Earthquake resistance; Seismic damage; Disaster investigation; Wenchuan earthquake

KeyWords Plus: MOUNTAIN TUNNELS; UNDERGROUND STRUCTURES; DAMAGE; SHAKING; DESIGN; PORTALS

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第 22 条, 共 39 条

标题: A New High Algebraic Order Efficient Finite Difference Method for the Solution of the Schrodinger Equation

作者: Dong, M (Dong, Ming); Simos, TE (Simos, Theodore E.)

来源出版物: FILOMAT 卷: 31 期: 15 页: 4999-5012 DOI: 10.2298/FIL1715999D 出版年: 2017

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使用次数 (2013 年至今): 1

摘要: The development of a new five-stages symmetric two-step method of fourteenth algebraic order with vanished phase-lag and its first, second, third and fourth derivatives is analyzed in this paper. More specifically: (1) we will present the development of the new method, (2) we will determine the local truncation error (LTE) of the new proposed method, (3) we will analyze the local truncation error based on the radial time independent Schrodinger equation, (4) we will study the stability and the interval of periodicity of the new proposed method based on a scalar test equation with frequency different than the frequency of the scalar test equation used for the phase-lag analysis, (5) we will test the efficiency of the new obtained method based on its application on the coupled differential equations arising from the Schrodinger equation.

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文献类型: Article

作者关键词: Schrodinger equation; multistep methods; Multistage methods; interval of periodicity; phase-lag; phase-fitted; derivatives of the phase-lag

KeyWords Plus: VANISHED PHASE-LAG; INITIAL-VALUE-PROBLEMS; SYMMETRIC 2-STEP METHOD; P-STABLE METHOD; TRIGONOMETRICALLY-FITTED METHODS; PREDICTOR-CORRECTOR METHOD; KUTTA-NYSTROM METHODS; NUMERICAL-SOLUTION; MULTISTEP METHODS; ORBITAL PROBLEMS

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第 23 条, 共 39 条

标题: Bending and buckling of nonlocal strain gradient elastic beams

作者: Xu, XJ (Xu, Xiao-Jian); Wang, XC (Wang, Xuan-Cang); Zheng, ML (Zheng, Mu-Lian); Ma, Z (Ma, Zheng)

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使用次数 (2013 年至今): 80

摘要: Featured by the two material length parameters in the nonlocal strain gradient theory, it is still unknown that what are the boundary conditions of nonlocal strain gradient beams, since the equations of motion and boundary conditions of these beam models appear in the same form as those of the classical ones. Based on the weighted residual approaches, this paper provides the boundary value problems of Euler-Bernoulli beams within the framework of the nonlocal strain gradient theory in conjunction with the von Karman nonlinear geometric relation. The closed-form solutions for bending and buckling loads of nonlocal strain gradient beams are obtained. Numerical results show that the higher-order boundary conditions have no effect on the static bending deflection of beams for the cases studied. However, the higher-order boundary conditions and the material length parameters have a significant effect on the buckling loads. Finally, when the two material length parameters are the same, the buckling loads can not always reduce to the classical solutions, the findings of which violate our expectations. The results provided in this work are expected to be helpful for the applications of this theory to the analysis of engineering structures. (C) 2016 Elsevier Ltd. All rights reserved.

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文献类型: Article

作者关键词: Bending; Buckling; Nonlocal strain gradient theory; Boundary condition; Weighted residual approach

KeyWords Plus: FREE-VIBRATION ANALYSIS; COUPLE STRESS THEORY; WALLED CARBON NANOTUBES; WAVE-PROPAGATION; EULER-BERNOULLI; SHELL-MODEL; VARIATIONAL-PRINCIPLES; RESONANCE BEHAVIOR; STABILITY ANALYSIS; CANTILEVER BEAMS

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ESI 热点论文: N

第 24 条, 共 39 条

标题: Progress, opportunities, and key fields for groundwater quality research under the impacts

of human activities in China with a special focus on western China

作者: Li, PY (Li, Peiyue); Tian, R (Tian, Rui); Xue, CY (Xue, Chenyang); Wu, JH (Wu, Jianhua)

来源出版物: ENVIRONMENTAL SCIENCE AND POLLUTION RESEARCH 卷: 24 期: 15

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使用次数 (最近 180 天): 28

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摘要: Groundwater quality research is extremely important for supporting the safety of the water supply and human health in arid and semi-arid areas of China. This review article was constructed to report the latest research progress of groundwater quality in western China where groundwater quality is undergoing fast deterioration because of fast economic development and extensive anthropogenic activities. The opportunities brought by increasing public awareness of groundwater quality protection were also highlighted and discussed. To guide and promote further development of groundwater quality research in China, especially in western China, ten key groundwater quality research fields were proposed. The review shows that the intensification of human activities and the associated impacts on groundwater quality in China, especially in western China, has made groundwater quality research increasingly important, and has caught the attention of local, national, and international agencies and scholars. China has achieved some progress in groundwater quality research in terms of national and regional laws, regulations, and financial supports. The future of groundwater quality research in China, especially in western China, is promising reflected by the opportunities highlighted. The key research fields proposed in this article may also inform groundwater quality protection and management at the national and international level.

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文献类型: Article

作者关键词: Groundwater pollution; Groundwater quality; Health risk; Hydrochemistry; Water quality assessment; Western China

KeyWords Plus: HEALTH-RISK ASSESSMENT; CITIZEN-SCIENCE; NORTHWEST CHINA; SHALLOW GROUNDWATER; DRINKING-WATER; CONTAMINATION; NITRATE; BASIN; PLAIN; ISOTOPE

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ESI 热点论文: N

第 25 条, 共 39 条

标题: Simulation of combined conductive, convective and radiative heat transfer in moving irregular porous fins by spectral element method

作者: Ma, J (Ma, Jing); Sun, YS (Sun, Yasong); Li, BW (Li, Benwen)

来源出版物: INTERNATIONAL JOURNAL OF THERMAL SCIENCES 卷: 118 页: 475-487 DOI: 10.1016/j.ijthermalsci.2017.05.008 出版年: AUG 2017

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使用次数 (最近 180 天): 10

使用次数 (2013 年至今): 22

摘要: A spectral element method (SEM) is developed to solve coupled conductive, convective and radiative heat transfer in moving porous fins of trapezoidal, convex parabolic and concave parabolic profiles. In these irregular porous fins, non-uniform heat generation, heat transfer coefficient and surface emissivity vary with temperature. In the SEM model, the solution domain is decomposed into non-overlapping elements by mesh tools of finite element method, and Chebyshev polynomials are used to establish basis functions on each element. A case of nonlinear heat transfer in the irregular porous fin is taken as an example to verify the performance of SEM. Compared with available data in the literature, SEM can provide a good accuracy. The h and p convergence characteristics of SEM are also studied. The p convergence rate is faster than the h convergence rate and approximately follows an exponential law. In addition, a volume adjusted fin efficiency is developed to evaluate the thermal performance of irregular porous fin. The effects of porous materials, irregular profiles and other thermo-physical parameters, such as Peclet number, surface emissivity coefficient, power index of heat transfer coefficient, convective conductive parameter, radiative-conductive parameter, non-dimensional heat generation at ambient temperature, heat generation parameters, porosity and non-dimensional ambient temperature on non dimensional temperature and fin efficiency are also studied. (C) 2017 Elsevier Masson SAS. All rights reserved.

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文献类型: Article

作者关键词: Spectral element method; Irregular porous fin; Non-uniform heat generation; Temperature dependent thermal properties

KeyWords Plus: DEPENDENT THERMAL-CONDUCTIVITY; HOMOTOPY PERTURBATION METHOD; DIFFERENT SECTION SHAPES; NATURAL-CONVECTION; TRANSFER COEFFICIENT; REFRIGERATION EFFICIENCY; PARALLEL PLATES; NANOFUID FLOW; MASS-TRANSFER; OPTIMIZATION

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ESI 热点论文: N

第 26 条, 共 39 条

标题: Mesoporous manganese oxide with large specific surface area for high-performance asymmetric supercapacitor with enhanced cycling stability

作者: Gu, JM (Gu, Jianmin); Fan, XY (Fan, Xiaoyong); Liu, X (Liu, Xin); Li, SH (Li, Siheng); Wang, Z (Wang, Zhuang); Tang, SF (Tang, Shoufeng); Yuan, DL (Yuan, Deling)

来源出版物: CHEMICAL ENGINEERING JOURNAL 卷: 324 页: 35-43 DOI: 10.1016/j.cej.2017.05.014 出版年: SEP 15 2017

Web of Science 核心合集中的 "被引频次": 23

被引频次合计: 23

使用次数 (最近 180 天): 28

使用次数 (2013 年至今): 131

摘要: Boosting the energy density of supercapacitors without sacrificing their power capability and cyclability is highly desired. Herein, we reported high-performance asymmetric supercapacitor device with high cycling stability using mesoporous manganese oxide nanococoons (MONCs) as positive electrode, and activated carbon (AC) as negative electrode. The mesoporous manganese oxide nanococoons exhibit excellent electrochemical performances because of their large surface area. The optimized asymmetric supercapacitor could be cycled reversibly in the

high voltage range of 0-1.7 V in aqueous electrolyte, which exhibits a maximum energy density of 32 Wh kg⁻¹ at a power density of 185 W kg⁻¹ and still remains 21 Wh kg⁻¹ at a power density of 1630 W kg⁻¹. Importantly, such asymmetric supercapacitor exhibits superior long cycle life with similar to 100% specific capacitance retained after similar to 2700 cycles and similar to 98% after 5000 cycles. (C) 2017 Elsevier B.V. All rights reserved.

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文献类型: Article

作者关键词: Asymmetric supercapacitor; Enhanced cycling stability; High energy density; Large specific surface area; Mesoporous manganese oxide

KeyWords Plus: ELECTROCHEMICAL ENERGY-STORAGE; NEUTRAL AQUEOUS-ELECTROLYTES; ACTIVATED CARBON; CAPACITORS; MNO₂; ELECTRODES; DIOXIDE; PROGRESS; FILM; CONVERSION

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来源出版物页码计数: 9

ESI 高被引论文: Y

ESI 热点论文: N

第 27 条, 共 39 条

标题: The catastrophic landside in Maoxian County, Sichuan, SW China, on June 24, 2017

作者: Qiu, JL (Qiu, Junling); Wang, XL (Wang, Xiuling); He, SY (He, Siyue); Liu, HQ (Liu, Houquan); Lai, JX (Lai, Jinxing); Wang, LX (Wang, Lixin)

来源出版物: NATURAL HAZARDS 卷: 89 期: 3 页: 1485-1493 DOI: 10.1007/s11069-017-3026-9 出版年: DEC 2017

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被引频次合计: 27

使用次数 (最近 180 天): 34

使用次数 (2013 年至今): 85

摘要: This short communication gives a brief investigation of the catastrophic natural landslides in the Diexi town, Maoxian County, Sichuan province, SW China, which occurred on June 24, 2017. According to the preliminary statistics of Sichuan government, about 73 people lost contact, and 62 houses and more than 1600 m roads were buried. The collapse volume of landslide is

approximately 8 million m³). The maximum drop is about 1600 m, and plane sliding distance is 2500-3000 m. Unfortunately, the secondary collapse incident occurred repeatedly on June 25 and 27, respectively. In this communication, the accident background, accident scene, and related emergency response are presented. In virtue of the in situ reconnaissance conducted by geological experts, the main reason for the collapse is the high-level and long-distance debris flow in earthquake fracture zone induced by continuous rainfall.

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文献类型: Article

作者关键词: Landslide; Natural disaster; High-level and long-distance debris flow; Earthquake fracture zone; Rainfall

KeyWords Plus: EARTHQUAKE; MODEL

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ESI 热点论文: N

第 28 条, 共 39 条

标题: Longitudinal deformation profile of a tunnel in weak rock mass by using the back analysis method

作者: Luo, YB (Luo, Yanbin); Chen, JX (Chen, Jianxun); Chen, Y (Chen, Yi); Diao, PS (Diao, Pengsheng); Qiao, X (Qiao, Xiong)

来源出版物: TUNNELLING AND UNDERGROUND SPACE TECHNOLOGY 卷: 71 页: 478-493 DOI: 10.1016/j.tust.2017.10.003 出版年: JAN 2018

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使用次数 (最近 180 天): 16

使用次数 (2013 年至今): 36

摘要: Analysis, of the rock mass deformation behavior is a very important aspect of the safety assessment for tunnel construction in weak rock mass. In this paper, the deformation characteristics of a soft rock mass tunnel using three beaches construction method were investigated, which include the crown settlement and horizontal displacement and have 9 sections with 3 different construction schemes. The optimized construction schemes by decreasing the beaches length and changing the geologist of primary support were proposed. Then, applying the displacement back analysis method to calculate the rock mass parameters, double parameters were analyzed by using the golden section method. Results show that the tunnel deformations were affected by the elastic modulus E and the lateral pressure coefficient λ of rock mass, and the change of E has greater influence than λ . on the tunnel deformation. The change of λ has greater influence on the crown settlement than that on the horizontal displacement. Furthermore, the regularity and characteristics of longitudinal deformation profile (LDP) in a weak rock mass tunnel was studied by utilizing the Fast Lagrangian Analysis of Continua (FLAC), and the LDP of the three long-beach construction scheme and the three short-beach construction scheme were compared. The results show that the complete displacements of tunnel under the three short-beach construction scheme condition by decreasing the lengths of the middle and lower benches are smaller than that under the three short beach construction scheme condition, however the pre-deformation of the tunnel deformation under this two construction scheme conditions is nearly the same. The extrusion deformation at the tunnel face of the three short-beach construction scheme is larger than that of the three long-beach construction scheme. Therefore, increasing the area of the core soil is a feasible measure to control the extrusion deformation on the tunnel face. Finally, the tunnel optimized construction scheme was verified benefit the tunnel stability. The measures of decreasing the length of middle and lower bench and closing the invert early and immediately will benefit the tunnel stability.

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文献类型: Article

作者关键词: Weak rock mass tunnel; Longitudinal deformation profile (LDP); Complete deformation; Displacement back analysis; Numerical simulation

KeyWords Plus: PARAMETER-ESTIMATION; EXCAVATION METHOD; DESIGN; IDENTIFICATION; OPTIMIZATION; MODEL; CONSTRUCTION; STATION

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来源出版物页码计数: 16

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ESI 热点论文: N

第 29 条, 共 39 条

标题: Simple Method to Predict Ground Displacements Caused by Installing Horizontal Jet-Grouting Columns

作者: Wang, ZF (Wang, Zhi-Feng); Shen, JS (Shen, Jack S.); Cheng, WC (Cheng, Wen-Chieh)

来源出版物: MATHEMATICAL PROBLEMS IN ENGINEERING 文献号: 1897394 DOI: 10.1155/2018/1897394 出版年: 2018

Web of Science 核心合集中的 "被引频次": 11

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使用次数 (最近 180 天): 9

使用次数 (2013 年至今): 14

摘要: During the horizontal jet grouting in soft ground, injection of large volumes of water and grout into the soil can lead to significant ground displacements. A simple method is proposed in this paper to predict the ground displacements caused by installing horizontal jet-grouting columns. The process of installing a horizontal column is simplified as the expansion of a cylindrical cavity with a uniform radial stress applied at plastic-elastic interface in a half plane. In this study, the analytical solution is adopted to calculate the deformation induced by the expansion of a cylindrical cavity. Considering the main jetting parameters (jetting pressure of the fluid, flow rate of the fluid, and withdrawal rate of the rod) and the soil properties (stiffness of the surrounding soil), an empirical equation to estimate the radius of plastic zone is developed. Two field tests are carried out in Shanghai, China, to verify the correctness and applicability of the proposed method. Comparisons between the predicted and measured values indicate that the proposed method can provide a reasonable prediction. The proposed simple method can be recommended as a useful tool for the design of ground improvement by means of horizontal jet grouting.

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文献类型: Article

KeyWords Plus: LATERAL DISPLACEMENT; PUMPING TESTS; SOFT DEPOSITS; CASE-HISTORY; FIELD TRIAL; SHANGHAI; INSTALLATION; TUNNELS; TECHNOLOGY; EXCAVATION

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ESI 热点论文: N

第 30 条, 共 39 条

标题: Challenges and prospects of sustainable groundwater management in an agricultural plain along the Silk Road Economic Belt, north-west China

作者: Chen, J (Chen, Jie); Wu, H (Wu, Hao); Qian, H (Qian, Hui); Li, XY (Li, Xinyan)

来源出版物: INTERNATIONAL JOURNAL OF WATER RESOURCES DEVELOPMENT 卷: 34 期: 3 特刊: SI 页: 354-368 DOI: 10.1080/07900627.2016.1238348 出版年: 2018

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使用次数 (最近 180 天): 32

使用次数 (2013 年至今): 35

摘要: As a major challenge in building a new and sustainable Silk Road Economic Belt, threats induced by poor groundwater management have raised stress on the groundwater resources in the Yinchuan Plain, north-west China. In the present article, an overview of groundwater development in the plain, along with the associated negative effects, is provided. A fragmented management framework is found responsible for the poor groundwater management. Efficient and effective groundwater management will require proper attention of the local authorities to the inherent interaction among various water systems. Only with enhanced cooperation, an integrated monitoring network, strengthened scientific support and active public participation can the sustainability of groundwater management of the plain be achieved.

入藏号: WOS:000430045800003

文献类型: Article

作者关键词: Groundwater; deterioration; sustainability; Yinchuan Plain; arid area; Silk Road

KeyWords Plus: SOIL SALINIZATION; YINCHUAN PLAIN; HEALTH-RISK; AREA; AQUIFER; QUALITY; NINGXIA

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ESI 热点论文: N

第 31 条, 共 39 条

标题: Conjunctive use of groundwater and surface water to reduce soil salinization in the Yinchuan Plain, North-West China

作者: Li, PY (Li, Peiyue); Qian, H (Qian, Hui); Wu, JH (Wu, Jianhua)

来源出版物: INTERNATIONAL JOURNAL OF WATER RESOURCES DEVELOPMENT 卷: 34 期: 3 特刊: SI 页: 337-353 DOI: 10.1080/07900627.2018.1443059 出版年: 2018

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使用次数 (最近 180 天): 66

使用次数 (2013 年至今): 70

摘要: Poor water resource management is an important factor in soil salinization in arid areas. In this study, the status of soil salinization and its controlling factors are summarized for the Yinchuan Plain, North-West China. The conjunctive use of surface water diverted from the Yellow River and groundwater abstracted from a shallow aquifer is proposed to alleviate soil salinization in the plain. Scenarios are designed and simulated to determine the optimal proportions at which groundwater should be exploited for irrigation in the three cities of the plain. Policies and suggestions regarding sustainable water resources and soil salinization research in the plain are recommended.

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文献类型: Article

作者关键词: Groundwater development; Conjunctive use of water; Groundwater modelling; Salinization; Agricultural development; China

KeyWords Plus: SEMIARID CLIMATE; QUALITY RESEARCH; OPPORTUNITIES; SALINITY; THREAT

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ESI 热点论文: N

第 32 条, 共 39 条

标题: Evaluation of asphalt-aggregate interaction based on the rheological properties

作者: Zhang, JP (Zhang, Jiupeng); Fan, ZP (Fan, Zepeng); Hu, DL (Hu, Dongliang); Hu, Z (Hu, Zhuang); Pei, JZ (Pei, Jianzhong); Kong, WC (Kong, Weichuan)

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使用次数 (2013 年至今): 29

摘要: The silicon dioxide (SiO₂) and calcium oxide (CaO) analytical reagents are selected to prepare asphalt mastics and the effects of aggregate chemical composition on asphalt-aggregate interactions (AAI) are evaluated based on the complex modulus and phase angle. It is found that the oxide analytical reagents significantly affect the rheological properties such as complex shear modulus and phase angle, and the effects of CaO are greater than SiO₂ due to the stronger interaction between asphalt binder and CaO analytical reagents. Both the modulus stiffening ratio and the phase angle-based K. Ziegel-B coefficient could be used to evaluate the AAI, and the latter is the better index. Results show that the indexes increase with the test temperature, but decrease with the loading frequency, and tend to be constant. The higher adhesive strength between asphalt binder and limestone than basalt is likely attributed to the higher content of CaO in limestone aggregate and the stronger asphalt-CaO interaction.

入藏号: WOS:000432547900003

文献类型: Article

作者关键词: Asphalt-aggregate interaction; chemical composition; oxide analytical reagent; DSR test; complex shear modulus; phase angle

KeyWords Plus: COMPOSITES; FILLERS

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ESI 热点论文: N

第 33 条, 共 39 条

标题: A state-of-the-art review of sustainable energy based freeze proof technology for cold-region tunnels in China

作者: Lai, JX (Lai, Jinxing); Wang, XL (Wang, Xiuling); Qiu, JL (Qiu, Junling); Zhang, GZ (Zhang, Guozhu); Chen, JX (Chen, Jianxun); Xie, YL (Xie, Yongli); Luo, YB (Luo, Yanbin)

来源出版物: RENEWABLE & SUSTAINABLE ENERGY REVIEWS 卷: 82 页: 3554-3569

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被引频次合计: 21

使用次数 (最近 180 天): 40

使用次数 (2013 年至今): 99

摘要: To cope with tunnel frost damage, studies on prevention methods are routinely conducted to improve environmental protection and energy saving. Based on field investigations, the main available thermal insulation methods and their application are discussed and analysed in this paper. The results show that passive measures, such as a thermal insulation layer or door, cannot completely avoid frost damage. Construction investment of the electric heat tracing (EHT) system is lower at the early stage, but a large investment in operation and pollution problems are needed in the later period. As renewable, clean and environmentally friendly primary energy, geothermal energy can realize energy-saving and emission-reduction. Furthermore, our research team proposed the optimization design method for tunnel heat insulation and anti-freezing by using geothermal energy and presented the challenges for future applications of the ground-source heat pump (GSHP) system in tunnels. The results regarding energy conservation from this review can provide useful technical support in design, operation and management of tunnels in cold regions.

入藏号: WOS:000418574800110

文献类型: Review

作者关键词: Cold-region tunnel; Freeze proof; Geothermal energy; In-situ observation; Design optimization; Energy-saving

KeyWords Plus: GROUND HEAT-EXCHANGERS; OPTIMUM INSULATION THICKNESS; THERMAL PERFORMANCE; PUMP SYSTEM; LINING GHES; MODEL; PILE; TEMPERATURE; CONDUCTION; WALLS

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ESI 高被引论文: Y

ESI 热点论文: N

第 34 条, 共 39 条

标题: MOF-derived porous N-Co₃O₄@N-C nanododecahedra wrapped with reduced graphene oxide as a high capacity cathode for lithium-sulfur batteries

作者: Xu, J (Xu, Jing); Zhang, WX (Zhang, Wenxue); Chen, Y (Chen, Yi); Fan, HB (Fan, Hongbo); Su, DW (Su, Dawei); Wang, GX (Wang, Guoxiu)

来源出版物: JOURNAL OF MATERIALS CHEMISTRY A 卷: 6 期: 6 页: 2797-2807

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使用次数 (最近 180 天): 139

使用次数 (2013 年至今): 304

摘要: The lithium-sulfur (Li-S) battery has been regarded as a highly promising rechargeable energy-storage system due to its high energy density of 2567 W h kg⁻¹. However, moderating the dissolution of lithium polysulfides (LiPSs) and enhancing the conductivity of the sulfur cathode are the main limitations for its successful application. Herein, we demonstrate an approach to simultaneously tackle these two barriers by designing a porous N-Co₃O₄@N-C nanododecahedral composite. This composite was derived from ZIF-67 via a facile pyrolysis method, which realizes the effective doping of nitrogen into both Co₃O₄ and the carbon framework, simultaneously achieving a well-defined porous structure. After wrapping with reduced graphene oxide (rGO),

this porous N-Co₃O₄@N-C/rGO cathode supported a high sulfur loading (5.89 mg cm⁻²) and exhibited excellent stability (611 mA h g⁻¹) at 2C after 1000 cycles). Furthermore, ex situ Raman spectroscopy, ex situ X-ray photoelectron spectroscopy, UV-vis absorption spectroscopy and first-principles calculations confirm that the N-Co₃O₄@N-C/rGO nanododecahedra effectively bind LiPSs in the electrode over multiple cycles. This proved that the cobalt oxides in the porous N-Co₃O₄@N-C nanododecahedra have strong affinity for binding LiPSs. The simultaneous doping of nitrogen both into the cobalt oxides and carbon framework not only strengthened the binding energy for LiPSs absorption, but also improved the overall conductivity of the nanododecahedra. Moreover, the interconnected porous structure contributes to the electron transfer and alleviates the volume changes of active materials during cycling.

入藏号: WOS:000424466300041

文献类型: Article

KeyWords Plus: OXYGEN REDUCTION REACTION; METAL-ORGANIC FRAMEWORK; LI-S BATTERIES; CARBON POLYHEDRA; PERFORMANCE; NITROGEN; POLYSULFIDES; SHELL; IDENTIFICATION; NANOSHEETS

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第 35 条, 共 39 条

标题: Impact of forest maintenance on water shortages: Hydrologic modeling and effects of climate change

作者: Luo, PP (Luo, Pingping); Zhou, M (Zhou, Meimei); Deng, H (Deng, Hongzhang); Lyu, J (Lyu, Jiqiang); Cao, W (Cao, Wenqiang); Takara, K (Takara, Kaoru); Nover, D (Nover, Daniel); Schladow, SG (Schladow, S. Geoffrey)

来源出版物: SCIENCE OF THE TOTAL ENVIRONMENT 卷: 615 页: 1355-1363 DOI: 10.1016/j.scitotenv.2017.09.044 出版年: FEB 15 2018

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被引频次合计: 6

使用次数 (最近 180 天): 4

使用次数 (2013 年至今): 103

摘要: The importance of water quantity for domestic and industrial water supply, agriculture, and the economy more broadly has led to the development of many water quantity assessment methods. In this study, surface flow and soil water in the forested upper reaches of the Yoshino River are compared using a distributed hydrological model with Forest Maintenance Module under two scenarios; before and after forest maintenance. We also examine the impact of forest maintenance on these variables during extreme droughts. Results show that surface flow and soil water increased after forest maintenance. In addition, projections of future water resources were estimated using a hydrological model and the output from a 20 km mesh Global Climate Model (GCM20). River discharge for the near-future (2015-2039) is similar to that of the present (1979-2003). Estimated river discharge for the future (2075-2099) was found to be substantially more extreme than in the current period, with 12 m³/s higher peak discharge in August and 7 m³/s lower in July compared to the discharges of the present period. Soilwater for the future is estimated to be lower than for the present and near future in May. The methods discussed in this study can be applied in other regions and the results help elucidate the impact of forests and climate change on water resources. (C) 2017 Elsevier B.V. All rights reserved.

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文献类型: Article

作者关键词: Forest maintenance; Drought; Soil water; Surface flow; Climate change

KeyWords Plus: RIVER-BASIN; METROPOLIS ALGORITHM; CATCHMENT MODELS; SOIL-EROSION; DROUGHT; UNCERTAINTY; RUNOFF; CHINA; MANAGEMENT; PRECIPITATION

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ESI 热点论文: N

第 36 条, 共 39 条

标题: Improving cracking resistance of cement mortar by thermo-sensitive poly N-isopropyl acrylamide (PNIPAM) gels

作者: Wang, ZJ (Wang, Zhenjun); Wu, JY (Wu, Jiayu); Zhao, P (Zhao, Peng); Dai, N (Dai, Nan); Zhai, ZW (Zhai, Zhiwei); Ai, T (Ai, Tao)

来源出版物: JOURNAL OF CLEANER PRODUCTION 卷: 176 页: 1292-1303 DOI: 10.1016/j.jclepro.2017.11.242 出版年: MAR 1 2018

Web of Science 核心合集中的 "被引频次": 9

被引频次合计: 9

使用次数 (最近 180 天): 28

使用次数 (2013 年至今): 46

摘要: Cracking problems are threats to durability and sustainability of high performance cement-based composites. Due to the complex behaviors of cement materials under various environmental conditions, accurate prediction of the cracks is very difficult. In this work, effects of novel thermo-sensitive polymer N-isopropylacrylamide (PNIPAM) on the cracking resistance of cement mortar were investigated. The micro structures of cement mortar and PNIPAM were characterized by environmental scanning electron microscopy (ESEM) and Fourier Transform Infrared Spectroscopy(FT-IR). The pulse velocity, water absorption and water content of cement mortar were tested to observe the inner structure changes of cement mortar with PNIPAM. Artificial neural network (ANN) technology was used to, predict the cracking resistance of cement mortar with PNIPAM. The results show that PNIPAM is cross-linked macromolecule polymer with special thermo-sensitive characters of shrinkage at high temperature and expansion at low temperature. When the mixing temperature is lower than LCST of PNIPAM; it can expand and is soluble in water. However, PNIPAM can shrink and release water to cure the hardened mortar when temperature is higher than LCST due to the cement hydration heat accumulation. The proposed model built by ANN can be used to predict the cracking, resistance of cement mortar. The model was further applied to evaluate the effects of different PNIPAM contents on the cracking performance of cement mortar. PNIPAM with suitable contents can decrease the internal defects of cement mortar. The content of PNIPAM can be used below 1.2% of cement mass for the consideration of cracking resistance improvement of cement mortar. (C) 2017 Elsevier Ltd. All rights reserved.

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文献类型: Article

作者关键词: Thermo-sensitive gels; Poly N-Isopropyl acrylamide (PNIPAM); Artificial neural network (ANN); Cement mortar; Cracking resistance

KeyWords Plus: SUPER ABSORBENT POLYMERS; MICROMECHANICAL MODEL; AUTOGENOUS SHRINKAGE; RELATIVE-HUMIDITY; THERMAL-EXPANSION; NEURAL-NETWORKS; EARLY-AGE; IN-SITU; CONCRETE; COEFFICIENT

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第 37 条, 共 39 条

标题: Distribution and characteristics of landslide in Loess Plateau: A case study in Shaanxi province

作者: Zhuang, JQ (Zhuang, Jianqi); Peng, JB (Peng, Jianbing); Wang, GH (Wang, Gonghui); Javed, I (Javed, Iqbal); Wang, Y (Wang, Ying); Li, W (Li, Wei)

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使用次数 (最近 180 天): 24

使用次数 (2013 年至今): 29

摘要: Every year about one third of the geohazards in China occur in the Loess Plateau causing human loss, damaging gas and oil pipelines, destroying highways, railways and degrading farmland. Field investigation and monitoring, in-situ tests and laboratory experiments were performed to improve our understanding of the factors effecting the distribution, characteristics and causes of loess landslides. First, we find that 79% of the landslides are shallower than 10m, 85% have a volume of less than 100,000 m³. Second, landslides on the Loess Plateau occur primarily on concave slope profiles that have slope angles of 20-35 degrees and that face south-east. Third, the equivalent coefficient of friction of loess landslides is very low resulting in long run-out with a low angle sliding surface. Loess landslides generally transform into mud-flows

resulting in an increase in volume in transit and forming a geohazard chain. Antecedent rainfall plays an important role in triggering loess landslides. Finally, clusters of landslides in the Loess Plateau occur because the loess easily disintegrates under high pressure due to its loose and highly porous structure. There is a sharp decrease in cohesive strength with increase in deformation and water content and thus landslides tend to undergo static liquefaction during sliding. (C) 2017 Elsevier B.V. All rights reserved.

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文献类型: Article

作者关键词: Loess landslide; Distribution; Characteristics; Landslide mechanics; Loess Plateau

KeyWords Plus: RING-SHEAR APPARATUS; DEBRIS FLOWS; RAINFALL; CHINA; SUSCEPTIBILITY; AVALANCHES; DYNAMICS; MODEL

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第 38 条, 共 39 条

标题: GIS-based landslide susceptibility evaluation using a novel hybrid integration approach of bivariate statistical based random forest method

作者: Chen, W (Chen, Wei); Xie, XS (Xie, Xiaoshen); Peng, JB (Peng, Jianbing); Shahabi, H (Shahabi, Himan); Hong, HY (Hong, Haoyuan); Bui, DT (Dieu Tien Bui); Duan, Z (Duan, Zhao); Li, SJ (Li, Shaojun); Zhu, AX (Zhu, A-Xing)

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使用次数 (最近 180 天): 18

使用次数 (2013 年至今): 28

摘要: Taibai County is a mountainous area in China, where rainfall-induced landslides occur frequently. The purpose of this study is to assess landslide susceptibility using the integrated Random Forest (RF) with bivariate Statistical Index (SI), the Certainty Factor (CF), and Index of Entropy (IDE). For this purpose, a total of 212 landslides for the study area were identified and collected. Of these landslides, 70% (148) were selected randomly for building the models and the other landslides (64) were used for validating the models. Accordingly, 12 landslide conditioning factors were considered that involve altitude, slope angle, plan curvature, profile curvature, slope aspect, distance to roads, distance to faults, distance to rivers, rainfall, NDVI, land use, and lithology. Then, the spatial correlation between conditioning factors and landslides was analysed using the RF method to quantify the predictive ability of these factors. In the next step, three landslide models, the RF-SI, RF-CF and RF-IOE, were constructed using the training dataset. Finally, the receiver operating characteristic (ROC) and statistical measures such as the kappa index, positive predictive rates, negative predictive rates, sensitivity, specificity, and accuracy were employed to validate and compare the predictive capability of the three models. Of the models, the RF-CF model has the highest positive predictive rate, specificity, accuracy, kappa index and AUC values of 0.838, 0.824, 0.865, 0.730 and 0.925 for the training data, and the highest positive predictive rate, negative predictive rate, sensitivity, specificity, accuracy, kappa index and AUC values of 0.896, 0.934, 0.938, 0.891, 0.914, 0.828, and 0.946 for the validation data, respectively. In general, the RF-CF model produced an optimized balance in terms of AUC values and statistical measures.

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文献类型: Article

作者关键词: Landslide; Statistical Index; Certainty Factor; Index of Entropy; Random Forest

KeyWords Plus: LOGISTIC-REGRESSION MODEL; SUPPORT VECTOR MACHINES; INFERENCE SYSTEM ANFIS; DATA MINING TECHNIQUES; HOA BINH PROVINCE; SPATIAL PREDICTION; FREQUENCY RATIO; CERTAINTY FACTOR; ENTROPY MODELS; DIFFERENTIAL EVOLUTION

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第 39 条, 共 39 条

标题: Geochemistry, Hydraulic Connectivity and Quality Appraisal of Multilayered Groundwater in the Hongdunzi Coal Mine, Northwest China

作者: Li, PY (Li, Peiyue); Wu, JH (Wu, Jianhua); Tian, R (Tian, Rui); He, S (He, Song); He, XD (He, Xiaodong); Xue, CY (Xue, Chenyang); Zhang, K (Zhang, Kang)

来源出版物: MINE WATER AND THE ENVIRONMENT 卷: 37 期: 2 特刊: SI 页: 222-237 DOI: 10.1007/s10230-017-0507-8 出版年: JUN 2018

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摘要: This study assessed the geochemistry and quality of groundwater in the Hongdunzi coal mining area in northwest China and investigated the mechanisms governing its hydrogeochemistry and the hydraulic connectivity between adjacent aquifers. Thirty-four groundwater samples were collected for physicochemical analyses and bivariate analyses were used to investigate groundwater quality evolution. The groundwater in the mine was determined to be neutral to slightly alkaline, with high levels of salinity and hardness; most samples were of SO₄-Cl-Na type. Fluoride and nitrate pollution in the confined aquifers were identified, primarily sourced from coals. Natural geochemical processes, such as mineral dissolution, cation exchange, and groundwater evaporation, largely control groundwater chemistry. Anthropogenic inputs from agricultural and mining activities were also identified in both shallow unconfined aquifers and the deeper confined aquifers, respectively. It was determined that the middle confined aquifer has a high hydraulic connectivity with the lower coal-bearing aquifer due to developed fractures. Careful management of the overlying aquifers is required to avoid mine water inrush geohazards and groundwater quality deterioration. The groundwater in the mining area is generally of poor quality, and is unsuitable for direct human consumption or irrigation. Na⁺, SO₄²⁻, Cl⁻, F⁻, TH,

TDS, NO₃⁻, and CODMn are the major factors responsible for the poor quality of the phreatic water, while Na⁺, SO₄²⁻, F⁻, and TDS are the major constituents affecting the confined groundwater quality. This study is beneficial for understanding the impacts of coal mine development on groundwater quality, and safeguarding sustainable mining in arid areas.

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文献类型: Article

作者关键词: Mine water; Groundwater quality index; Correlation analysis; Hydrogeochemistry; Saturation index

KeyWords Plus: SHALLOW GROUNDWATER; NATURAL-WATERS; SURFACE-WATER; PENGYANG COUNTY; WESTERN CHINA; MINING AREAS; HUMAN HEALTH; RIVER-BASIN; HYDROGEOCHEMISTRY; CONTAMINATION

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附录 2: 长安大学 ESI 热点论文 (2018 年 11 月更新)

第 1 条, 共 2 条

标题: Study on highly enhanced photocatalytic tetracycline degradation of type II AgI/CuBi₂O₄ and Z-scheme AgBr/CuBi₂O₄ heterojunction photocatalysts

作者: Guo, F (Guo, Feng); Shi, WL (Shi, Weilong); Wang, HB (Wang, HuiBo); Han, MM (Han,

Mumei); Guan, WS (Guan, Weisheng); Huang, H (Huang, Hui); Liu, Y (Liu, Yang); Kang, ZH (Kang, Zhenhui)

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摘要: Removal of antibiotics from aqueous solutions by photocatalysis is an advanced technology for environmental remediation. Herein, we have fabricated a series of AgX (X = I, Br)/CuBi₂O₄ composites through an in-situ precipitation method. The photocatalytic activity of the obtained photocatalysts was measured by the degradation of tetracycline (TC) under visible light irradiation ($\lambda > 420$ nm). All the AgX (X = I, Br)/CuBi₂O₄ composites exhibit much higher photocatalytic activity than that of pure CuBi₂O₄. The enhanced photocatalytic activity is mainly attributed to the efficient interfacial charge separation and migration in the AgX (X = I, Br)/CuBi₂O₄ heterojunctions. Meanwhile, AgX (X = I, Br)/CuBi₂O₄ heterojunctions display excellent photocatalytic stability, and the photocatalytic degradation rates were not obvious decreased even after five successive cycles. Based on the energy band structure, the radicals trapping and electronic spin resonance (ESR) experiments, the Z-scheme mechanism of AgBr/CuBi₂O₄ and type II mechanism of AgI/CuBi₂O₄ heterojunction photocatalysts were tentatively discussed, respectively.

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语言: English

文献类型: Article

作者关键词: Photocatalysis; CuBi₂O₄; Tetracycline; Type II heterojunction; Z-scheme heterojunction

KeyWords Plus: VISIBLE-LIGHT IRRADIATION; P-N HETEROJUNCTION; COMPOSITE PHOTOCATALYST; HYDROGEN EVOLUTION; FABRICATION; EFFICIENT; CUBI₂O₄; PERFORMANCE; WATER; AG

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第 2 条, 共 2 条

标题: GIS-based landslide susceptibility evaluation using a novel hybrid integration approach of bivariate statistical based random forest method

作者: Chen, W (Chen, Wei); Xie, XS (Xie, Xiaoshen); Peng, JB (Peng, Jianbing); Shahabi, H (Shahabi, Himan); Hong, HY (Hong, Haoyuan); Bui, DT (Dieu Tien Bui); Duan, Z (Duan, Zhao); Li, SJ (Li, Shaojun); Zhu, AX (Zhu, A-Xing)

来源出版物: CATENA 卷: 164 页: 135-149 DOI: 10.1016/j.catena.2018.01.012 出版年: MAY 2018

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摘要: Taibai County is a mountainous area in China, where rainfall-induced landslides occur frequently. The purpose of this study is to assess landslide susceptibility using the integrated

Random Forest (RF) with bivariate Statistical Index (SI), the Certainty Factor (CF), and Index of Entropy (IDE). For this purpose, a total of 212 landslides for the study area were identified and collected. Of these landslides, 70% (148) were selected randomly for building the models and the other landslides (64) were used for validating the models. Accordingly, 12 landslide conditioning factors were considered that involve altitude, slope angle, plan curvature, profile curvature, slope aspect, distance to roads, distance to faults, distance to rivers, rainfall, NDVI, land use, and lithology. Then, the spatial correlation between conditioning factors and landslides was analysed using the RF method to quantify the predictive ability of these factors. In the next step, three landslide models, the RF-SI, RF-CF and RF-IOE, were constructed using the training dataset. Finally, the receiver operating characteristic (ROC) and statistical measures such as the kappa index, positive predictive rates, negative predictive rates, sensitivity, specificity, and accuracy were employed to validate and compare the predictive capability of the three models. Of the models, the RF-CF model has the highest positive predictive rate, specificity, accuracy, kappa index and AUC values of 0.838, 0.824, 0.865, 0.730 and 0.925 for the training data, and the highest positive predictive rate, negative predictive rate, sensitivity, specificity, accuracy, kappa index and AUC values of 0.896, 0.934, 0.938, 0.891, 0.914, 0.828, and 0.946 for the validation data, respectively. In general, the RF-CF model produced an optimized balance in terms of AUC values and statistical measures.

入藏号: WOS:000430031800015

语言: English

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作者关键词: Landslide; Statistical Index; Certainty Factor; Index of Entropy; Random Forest

KeyWords Plus: LOGISTIC-REGRESSION MODEL; SUPPORT VECTOR MACHINES; INFERENCE SYSTEM ANFIS; DATA MINING TECHNIQUES; HOA BINH PROVINCE; SPATIAL PREDICTION; FREQUENCY RATIO; CERTAINTY FACTOR; ENTROPY MODELS; DIFFERENTIAL EVOLUTION

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