

ESI 材料科学学科研究前沿排名 TOP20 (2018-9)

序号	研究前沿	论文数	被引频次	篇均被引频次	平均年
1	EFFICIENT PLANAR HETEROJUNCTION PEROVSKITE SOLAR CELLS;EFFICIENT ORGANOMETAL TRIHALIDE PEROVSKITE PLANAR-HETEROJUNCTION SOLAR CELLS;HIGH-PERFORMANCE INORGANIC-ORGANIC HYBRID PEROVSKITE SOLAR CELLS;SOLUTION-PROCESSED PLANAR HETEROJUNCTION PEROVSKITE SOLAR CELLS;PLANAR HETEROJUNCTION PEROVSKITE SOLAR CELLS	39	45,616	1169.64	2013.8
2	CANDIDATE TYPE-II WEYL SEMIMETAL MOTE2;CANDIDATE TYPE-II WEYL SEMIMETAL WTE2;TYPE-II WEYL SEMIMETAL CANDIDATE WTE2;TOPOLOGICAL WEYL SEMIMETAL CANDIDATE NBP;TYPE-II WEYL SEMIMETAL CANDIDATE MOXW1-XTE2	40	11,647	291.18	2015
3	CARBON DOTS (GRAPHENE QUANTUM DOTS;BRIGHT MULTICOLOR BANDGAP FLUORESCENT CARBON QUANTUM DOTS;CARBON QUANTUM DOTS;HIGHLY LUMINESCENT NITROGEN-DOPED AMPHOTERIC CARBON DOTS;COLOR-TUNABLE CARBON DOTS POSSESSING SOLID-STATE EMISSION	48	10,656	222.00	2014.8

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4	FEW-LAYER BLACK PHOSPHORUS FIELD-EFFECT TRANSISTORS;BLACK PHOSPHORUS FIELD-EFFECT TRANSISTORS;FEW-LAYER BLACK PHOSPHORUS;ULTRATHIN BLACK PHOSPHORUS;BLACK PHOSPHORUS PHOTODETECTOR	10	9,523	952.30	2014
5	ROOM-TEMPERATURE CHIRAL MAGNETIC SKYRMIONS;ROOM-TEMPERATURE MAGNETIC SKYRMIONS;CHIRAL MAGNETIC DOMAIN WALL STRUCTURE;DELETING SINGLE MAGNETIC SKYRMIONS;SINGLE MAGNETIC SKYRMIONS	49	9,055	184.80	2014.4
6	SINGLE CESIUM LEAD HALIDE PEROVSKITE NANOCRYSTALS;ALL-INORGANIC CESIUM LEAD HALIDE PEROVSKITE NANOCRYSTALS;HIGHLY LUMINESCENT ALKYLAMMONIUM LEAD HALIDE PEROVSKITE NANOCRYSTALS;HIGHLY LUMINESCENT LEAD HALIDE PEROVSKITE NANOCRYSTALS;SHAPE-CONTROLLED CESIUM LEAD HALIDE PEROVSKITE NANOCRYSTALS	46	8,341	181.33	2015.6
7	FLUORENE-FREE ORGANOMETAL HALIDE PEROVSKITE LIGHT-EMITTING DIODES;FULLY PRINTED HALIDE PEROVSKITE LIGHT-EMITTING DIODES;HIGH-PERFORMANCE PEROVSKITE LIGHT-EMITTING DIODES;MULTICOLORED ORGANIC/INORGANIC HYBRID PEROVSKITE LIGHT-EMITTING DIODES;LOW-VOLTAGE PEROVSKITE LIGHT-EMITTING DIODES	26	7,502	288.54	2014.8

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8	CARBON NANOTUBE FIBER BASED STRETCHABLE WIRE-SHAPED SUPERCAPACITORS;STRETCHABLE WIRE-SHAPED ASYMMETRIC SUPERCAPACITORS BASED;STRETCHABLE HIGH-PERFORMANCE SUPERCAPACITORS BASED;SOLID-STATE HIGH PERFORMANCE FLEXIBLE SUPERCAPACITORS BASED;HIGH-PERFORMANCE TWO-PLY YARN SUPERCAPACITORS BASED	41	7,327	178.71	2013.8
9	DIELECTRIC GRADIENT METASURFACE OPTICAL ELEMENTS;LOW-CONTRAST DIELECTRIC METASURFACE OPTICS;HIGH-TRANSMISSION DIELECTRIC METASURFACE;VISIBLE-FREQUENCY DIELECTRIC METASURFACES;DIELECTRIC METASURFACES	28	7,196	257.00	2014.6
10	HIGHLY EFFICIENT ORGANIC DYE-SENSITIZED SOLAR CELLS;HIGHLY EFFICIENT DYE-SENSITIZED SOLAR CELLS;HIGH-EFFICIENCY CO(II/III)-BASED DYE-SENSITIZED SOLAR CELLS;HIGH-PERFORMANCE DYE-SENSITIZED SOLAR CELLS;STABLE DYE-SENSITIZED SOLAR CELLS	21	7,116	338.86	2014.2
11	BUILT-IN AGGREGATION-INDUCED EMISSION LIGHT-UP APOPTOSIS SENSOR;AGGREGATION-INDUCED EMISSION MATERIALS;AGGREGATION-INDUCED EMISSION CHARACTERISTICS;AGGREGATION-INDUCED EMISSION MATERIAL;AGGREGATION-INDUCED EMISSION FEATURE	35	6,770	193.43	2015.1

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12	EQUIATOMIC HIGH-ENTROPY ALLOY CRMNFECONI;EQUIATOMIC COCRFEMNNI HIGH-ENTROPY ALLOY;SINGLE-PHASE HIGH-ENTROPY ALLOY CRMNFECONI;NANOCRYSTALLINE COCRFEMNNI HIGH-ENTROPY ALLOY;CRMNFECONI HIGH-ENTROPY ALLOY	49	6,538	133.43	2015.2
13	MONOLAYER MOS2;MONOLAYER TRANSITION METAL DICHALCOGENIDE SEMICONDUCTOR;MONOLAYER WSE2;MONOLAYER TRANSITION METAL DICHALCOGENIDES;MONOLAYER WS2	19	6,027	317.21	2013.8
14	SELF-SUSTAINED TOPOLOGICAL MAJORANA PHASE;MAJORANA BOUND STATES;REALIZING MAJORANA FERMIONS;MAJORANA FERMIONS;MAJORANA ZERO-BIAS CONDUCTANCE PEAKS	45	5,693	126.51	2015.3
15	CHEMICALLY EXFOLIATED METALLIC MOS2 NANOSHEETS;DEFECT-RICH MOS2 ULTRATHIN NANOSHEETS;OXYGEN-INCORPORATED MOS2 ULTRATHIN NANOSHEETS;ELECTROCATALYTIC HYDROGEN EVOLUTION;HYDROGEN EVOLUTION REACTION	7	5,565	795.00	2013

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16	TRANSPARENT CONDUCTIVE TWO-DIMENSIONAL TITANIUM CARBIDE EPITAXIAL THIN FILMS;POROUS TWO-DIMENSIONAL TRANSITION METAL CARBIDE (MXENE) FLAKES;TWO-DIMENSIONAL TRANSITION METAL CARBIDES;CONDUCTIVE TWO-DIMENSIONAL TITANIUM CARBIDE CLAY;TWO-DIMENSIONAL TITANIUM CARBIDE	27	5,537	205.07	2014.7
17	LI-O-2 BATTERIES BASED;RECHARGEABLE LI-O-2 BATTERIES;AQUEOUS LI-O-2 BATTERIES;ADVANCED LI-O-2 BATTERIES;CYCLING LI-O-2 BATTERIES	25	5,491	219.64	2014.2
18	TWO-DIMENSIONAL LAYERED TRANSITION METAL DICHALCOGENIDE NANOSHEETS;TWO-DIMENSIONAL TRANSITION METAL DICHALCOGENIDE NANOSHEET-BASED COMPOSITES;METAL DICHALCOGENIDE NANOSHEETS;ULTRATHIN TWO-DIMENSIONAL NANOMATERIALS;TWO-DIMENSIONAL NANOMATERIALS	6	5,465	910.83	2014
19	HYBRID LEAD IODIDE PEROVSKITE SOLAR CELLS;LATERAL STRUCTURE HYBRID PEROVSKITE SOLAR CELLS;LEAD HALIDE PEROVSKITE SOLAR CELLS;CH ₃ NH ₃ PBI ₃ PEROVSKITE SOLAR CELLS;CH ₃ NH ₃ PBX ₃ PEROVSKITE SOLAR CELLS	15	5,328	355.20	2014.9

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20	COST-EFFECTIVE 3D HYDROGEN EVOLUTION CATHODE;HYDROGEN EVOLUTION REACTION;ELECTROCATALYTIC HYDROGEN EVOLUTION;ELECTROCHEMICAL HYDROGEN EVOLUTION;HYDROGEN EVOLUTION	14	5,231	373.64	2013.9