

ESI 材料科学学科研究前沿排名 TOP20 (2018-1)

序号	研究前沿	论文数	被引频次	篇均被引频次	平均年
1	STRAINED MONOLAYER MOS2;MONOLAYER MOS2;MONOLAYER TRANSITION METAL DICHALCOGENIDES;MONOLAYER TRANSITION METAL DICHALCOGENIDE SEMICONDUCTOR;MONOLAYER WSE2	32	11,533	360.41	2013.5
2	NONAQUEOUS LI-O-2 BATTERIES;RECHARGEABLE LI-O-2 BATTERIES;CYCLING LI-O-2 BATTERIES;LI-O-2 BATTERIES BASED;AQUEOUS LI-O-2 BATTERIES	47	10,221	217.47	2013.5
3	SELF-SUSTAINED TOPOLOGICAL MAJORANA PHASE;REALIZING MAJORANA FERMIONS;MAJORANA FERMIONS;MAJORANA QUANTUM WIRES;REALISTIC MAJORANA NANOWIRES	50	9,814	196.28	2014
4	STABLE THREE-DIMENSIONAL TOPOLOGICAL DIRAC SEMIMETAL CD3AS2;THREE-DIMENSIONAL TOPOLOGICAL DIRAC SEMIMETAL PHASE;TOPOLOGICAL WEYL SEMIMETAL STATE;TOPOLOGICAL WEYL SEMIMETAL CANDIDATE NBP;THREE-DIMENSIONAL TOPOLOGICAL DIRAC SEMIMETAL	37	9,586	259.08	2014.1

5	ULTRA-THIN PLASMONIC OPTICAL VORTEX PLATE BASED;DIELECTRIC GRADIENT METASURFACE OPTICAL ELEMENTS;PLASMONIC GRADIENT METASURFACES;HUYGENS METASURFACES BASED;PLASMONIC METASURFACES	44	9,286	211.05	2013.6
6	SILICENE FIELD-EFFECT TRANSISTORS OPERATING;BUCKLED SILICENE FORMATION;CORRUGATED SILICENE PHASES;FERROMAGNETIC SILICENE JUNCTIONS;EPITAXIAL SILICENE	27	8,096	299.85	2012.7
7	FEW-LAYER BLACK PHOSPHORUS FIELD-EFFECT TRANSISTORS;FEW-LAYER BLACK PHOSPHORUS;BLACK PHOSPHORUS FIELD-EFFECT TRANSISTORS;ULTRATHIN BLACK PHOSPHORUS;REDISCOVERING BLACK PHOSPHORUS	12	7,634	636.17	2014
8	HIGHLY EFFICIENT ORGANIC DYE-SENSITIZED SOLAR CELLS;HIGH-CONVERSION-EFFICIENCY ORGANIC DYE-SENSITIZED SOLAR CELLS;HIGHLY EFFICIENT DYE-SENSITIZED SOLAR CELLS;EFFICIENT DYE-SENSITIZED SOLAR CELLS;HIGH-EFFICIENCY CO(II/III)-BASED DYE-SENSITIZED SOLAR CELLS	26	7,029	270.35	2013.7
9	OXYGEN REDUCTION REACTION ACTIVITY;OXYGEN REDUCTION REACTION;OXYGEN REDUCTION REACTIONS;ELECTROCHEMICAL OXYGEN REDUCTION ACTIVITY;ELECTROCATALYTIC OXYGEN REDUCTION	20	6,933	346.65	2012.3

10	SODIUM-ION ENERGY STORAGE BATTERIES;ROOM-TEMPERATURE STATIONARY SODIUM-ION BATTERIES;RECHARGEABLE SODIUM-ION BATTERIES;SODIUM-ION BATTERIES;SODIUM ION BATTERIES	8	6,729	841.12	2013
11	EFFICIENT BLUE ORGANIC LIGHT-EMITTING DIODES EMPLOYING THERMALLY;DELAYED FLUORESCENCE ORGANIC LIGHT EMITTERS;DELAYED FLUORESCENT ORGANIC LIGHT-EMITTING DIODES;DELAYED FLUORESCENCE DIODES;FULL-COLOR DELAYED FLUORESCENCE MATERIALS BASED	48	6,727	140.15	2014.7
12	FREESTANDING ULTRATHIN REDUCED GRAPHENE OXIDE MEMBRANES;GRAPHENE OXIDE MEMBRANES BASED;NANOSTRAND-CHANNELLED GRAPHENE OXIDE MEMBRANES;MOLECULAR-SIEVING GRAPHENE OXIDE MEMBRANES;GRAPHENE OXIDE MEMBRANES	42	6,569	156.4	2014.2
13	EFFICIENT 3D HYDROGEN EVOLUTION CATHODE;EFFICIENT HYDROGEN EVOLUTION CATHODE;COST-EFFECTIVE 3D HYDROGEN EVOLUTION CATHODE;HYDROGEN EVOLUTION REACTION;CARBIDE CATALYZE HYDROGEN EVOLUTION	24	6,491	270.46	2013.6

14	ROBUST SILICON NANOPARTICLE-BASED LITHIUM ION BATTERY ANODES;DOUBLE-WALLED SILICON NANOTUBE BATTERY ANODES;HIGH-PERFORMANCE LITHIUM BATTERY ANODES;LARGE-VOLUME-CHANGE LITHIUM BATTERY ANODES;HIGH-PERFORMANCE LITHIUM-ION BATTERY ANODES	19	6,464	340.21	2012.6
15	TWO-DIMENSIONAL LAYERED TRANSITION METAL DICHALCOGENIDE NANOSHEETS;TWO-DIMENSIONAL TRANSITION METAL DICHALCOGENIDES;CHEMISTRY;ELECTRONICS;OPTOELECTRONICS	2	6,164	3082	2012.5
16	HIGH EFFICIENCY ELECTRODEPOSITED CU ₂ ZNSNS ₄ SOLAR CELL;CU ₂ ZNSNSE ₄ THIN FILM SOLAR CELLS;SE)(4) THIN-FILM SOLAR CELLS;KESTERITE THIN-FILM SOLAR CELLS;CU ₂ ZNSNS ₄ SOLAR CELLS	28	5,886	210.21	2013.2
17	EFFICIENT SOLAR WATER SPLITTING;HIGHLY EFFICIENT WATER SPLITTING;COPPER(I) OXIDE WATER SPLITTING PHOTOCATHODES;EFFICIENT BIVO ₄ THIN FILM PHOTOANODES MODIFIED;EFFICIENT WATER OXIDATION	31	5,709	184.16	2013.5

18	FLUORENE-FREE ORGANOMETAL HALIDE PEROVSKITE LIGHT-EMITTING DIODES;FULLY PRINTED HALIDE PEROVSKITE LIGHT-EMITTING DIODES;MULTICOLORED ORGANIC/INORGANIC HYBRID PEROVSKITE LIGHT-EMITTING DIODES;HIGH-PERFORMANCE PEROVSKITE LIGHT-EMITTING DIODES;LEAD HALIDE PEROVSKITE NANOWIRE LASERS	29	5,527	190.59	2014.9
19	CHEMICALLY EXFOLIATED METALLIC MOS2 NANOSHEETS;OXYGEN-INCORPORATED MOS2 ULTRATHIN NANOSHEETS;DEFECT-RICH MOS2 ULTRATHIN NANOSHEETS;CONDUCTING MOS2 NANOSHEETS;EFFICIENT HYDROGEN EVOLUTION	8	5,404	675.5	2012.9
20	HIGH-POWER GRAPHENE MICRO-SUPERCAPACITORS;3-DIMENSIONAL GRAPHENE CARBON NANOTUBE CARPET-BASED MICROSUPERCAPACITORS;LASER-INDUCED POROUS GRAPHENE FILMS;ULTRA-THICK GRAPHENE BULK SUPERCAPACITOR ELECTRODES;LAYER-BY-LAYER ASSEMBLED HETEROATOM-DOPED GRAPHENE FILMS	22	5,337	242.59	2014