

ESI 材料科学学科研究前沿排名 TOP20 (2017-9)

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 MOS ₂ ;MONOLAYER MOS ₂ ;MONOLAYER TRANSITION-METAL DICHALCOGENIDES WS ₂ ;MONOLAYER TRANSITION METAL DICHALCOGENIDE SEMICONDUCTOR;MONOLAYER TRANSITION METAL DICHALCOGENIDES	38	10,991	289.24	2013.6
2	SODIUM-ION ENERGY STORAGE BATTERIES;HIGH PERFORMANCE SODIUM ION BATTERY ANODES;SODIUM ION BATTERIES;RECHARGEABLE SODIUM-ION BATTERIES;ROOM-TEMPERATURE STATIONARY SODIUM-ION BATTERIES	19	8,303	437	2013.2
3	SELF-SUSTAINED TOPOLOGICAL MAJORANA PHASE;REALIZING MAJORANA FERMIONS;MAJORANA FERMIONS;MAJORANA QUANTUM WIRES;MAJORANA NANOWIRE	35	8,193	234.09	2013.3
4	CHIRAL MAGNETIC DOMAIN WALL STRUCTURE;MAGNETIC DOMAIN WALLS;GIANT SPIN HALL EFFECT;SPIN HALL TORQUE MAGNETOMETRY;ULTRATHIN MAGNETIC FILMS	46	7,931	172.41	2013.4

5	ULTRA-THIN PLASMONIC OPTICAL VORTEX PLATE BASED;DIELECTRIC GRADIENT METASURFACE OPTICAL ELEMENTS;PLASMONIC GRADIENT METASURFACES;HUYGENS METASURFACES BASED;DIELECTRIC METASURFACES	41	7,701	187.83	2013.4
6	SILICENE FIELD-EFFECT TRANSISTORS OPERATING;BUCKLED SILICENE FORMATION;CORRUGATED SILICENE PHASES;EPITAXIAL SILICENE;SILICENE LAYERS	26	7,442	286.23	2012.7
7	GRAPHENE METAMATERIALS BASED TUNABLE TERAHERTZ ABSORBER;BROADBAND GRAPHENE TERAHERTZ MODULATORS ENABLED;TUNABLE BIPERIODIC GRAPHENE METASURFACES;GATE-TUNABLE GRAPHENE PLASMONS;GRAPHENE PLASMONS	34	7,405	217.79	2013.2
8	EFFICIENT METAL-FREE OXYGEN REDUCTION ELECTROCATALYSTS;OXYGEN REDUCTION REACTION ACTIVITY;OXYGEN REDUCTION REACTION;ELECTROCHEMICAL OXYGEN REDUCTION ACTIVITY;OXYGEN REDUCTION REACTIONS	23	7,096	308.52	2012.3
9	FEW-LAYER BLACK PHOSPHORUS FIELD-EFFECT TRANSISTORS;FEW-LAYER BLACK PHOSPHORUS;BLACK PHOSPHORUS FIELD-EFFECT TRANSISTORS;BLACK PHOSPHORUS PHOTODETECTOR;REDISCOVERING BLACK PHOSPHORUS	13	6,770	520.77	2014

10	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	32	6,747	210.84	2013.9
11	HIGH-PERFORMANCE SOLUTION-PROCESSED ORGANIC SOLAR CELLS;SOLUTION-PROCESSED ORGANIC SOLAR CELLS BASED;SOLUTION-PROCESSED HIGH-EFFICIENCY ORGANIC SOLAR CELLS;HIGH-PERFORMANCE ORGANIC SOLAR CELLS BASED;SOLUTION-PROCESSED ORGANIC SOLAR CELLS	15	6,021	401.4	2013.3
12	EFFICIENT 3D HYDROGEN EVOLUTION CATHODE;EFFICIENT HYDROGEN EVOLUTION CATHODE;COST-EFFECTIVE 3D HYDROGEN EVOLUTION CATHODE;ELECTROCHEMICAL HYDROGEN EVOLUTION REACTION;HYDROGEN EVOLUTION REACTION	26	5,862	225.46	2013.7
13	ROBUST SILICON NANOPARTICLE-BASED LITHIUM ION BATTERY ANODES;DOUBLE-WALLED SILICON NANOTUBE BATTERY ANODES;CRYSTALLINE SILICON NANOPARTICLE LITHIATION;LARGE-VOLUME-CHANGE LITHIUM BATTERY ANODES;LITHIUM ION BATTERY ANODE	18	5,807	322.61	2012.4

14	PLASMA PROTEIN CORONA CRITICALLY AFFECTS NANOPARTICLE PATHOPHYSIOLOGY;NANOPARTICLE PROTEIN CORONA;PROTEIN CORONA FORMATION;PROTEIN CORONA COMPOSITION;PROTEIN CORONA FINGERPRINTING	41	5,746	140.15	2014.2
15	HIGH EFFICIENCY ELECTRODEPOSITED CU ₂ ZNSNS ₄ SOLAR CELL;CU ₂ ZNSNSE ₄ THIN FILM SOLAR CELLS;KESTERITE THIN-FILM SOLAR CELLS;SE(4) THIN-FILM SOLAR CELLS;CU ₂ ZNSNS ₄ SOLAR CELLS	30	5,695	189.83	2013.2
16	EFFICIENT BLUE ORGANIC LIGHT-EMITTING DIODES EMPLOYING THERMALLY;DELAYED FLUORESCENT ORGANIC LIGHT-EMITTING DIODES;DELAYED FLUORESCENCE DIODES;FULL-COLOR DELAYED FLUORESCENCE MATERIALS BASED;ORGANIC LIGHT-EMITTING DIODES EMPLOYING EFFICIENT REVERSE INTERSYSTEM CROSSING	44	5,632	128	2014.5
17	TWO-DIMENSIONAL LAYERED TRANSITION METAL DICHALCOGENIDE NANOSHEETS;TWO-DIMENSIONAL TRANSITION METAL DICHALCOGENIDES;CHEMISTRY;ELECTRONICS;OPTOELECTRONICS	2	5,456	2728	2012.5
18	EFFICIENT SOLAR WATER SPLITTING;COPPER(I) OXIDE WATER SPLITTING PHOTOCATHODES;HIGHLY EFFICIENT WATER SPLITTING;SOLAR WATER SPLITTING;EFFICIENT WATER OXIDATION	33	5,277	159.91	2013.6

19	CHEMICALLY EXFOLIATED METALLIC MOS2 NANOSHEETS;OXYGEN-INCORPORATED MOS2 ULTRATHIN NANOSHEETS;DEFECT-RICH MOS2 ULTRATHIN NANOSHEETS;CONDUCTING MOS2 NANOSHEETS;HYDROGEN EVOLUTION REACTION	8	4,835	604.38	2012.9
20	FREESTANDING ULTRATHIN REDUCED GRAPHENE OXIDE MEMBRANES;MOLECULAR-SIEVING GRAPHENE OXIDE MEMBRANES;NANOSTRAND-CHANNELLED GRAPHENE OXIDE MEMBRANES;GRAPHENE OXIDE MEMBRANES;HIGH-FLUX GRAPHENE OXIDE NANOFILTRATION MEMBRANE INTERCALATED	30	4,807	160.23	2014