ESI 材料科学学科研究前沿排名 TOP20(2018-11)

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;SOLUTION-PROCESSED PLANAR HETEROJUNCTION PEROVSKITE SOLAR CELLS;HIGH-PERFORMANCE INORGANIC-ORGANIC HYBRID PEROVSKITE SOLAR CELLS;PLANAR HETEROJUNCTION PEROVSKITE SOLAR CELLS;HIGHLY EFFICIENT PEROVSKITE SOLAR CELLS	36	**44,989**	1249.69	2013.9
2	CANDIDATE TYPE-II WEYL SEMIMETAL MOTE2;TYPE-II WEYL SEMIMETAL CANDIDATE WTE2;TOPOLOGICAL WEYL SEMIMETAL CANDIDATE NBP;CANDIDATE TYPE-II WEYL SEMIMETAL WTE2;TOPOLOGICAL WEYL SEMIMETAL STATE	38	**12,046**	317	2015
3	FEW-LAYER BLACK PHOSPHORUS FIELD-EFFECT TRANSISTORS;BLACK PHOSPHORUS FIELD-EFFECT TRANSISTORS;FEW-LAYER BLACK PHOSPHORUS;REDISCOVERING BLACK PHOSPHORUS;ULTRATHIN BLACK PHOSPHORUS	9	**9,748**	1083.11	2014

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4	BROADBAND HIGH-EFFICIENCY DIELECTRIC METASURFACES;DIELECTRIC GRADIENT METASURFACE OPTICAL ELEMENTS;BROADBAND ACHROMATIC OPTICAL METASURFACE DEVICES;LOW-CONTRAST DIELECTRIC METASURFACE OPTICS;HELICITY MULTIPLEXED BROADBAND METASURFACE HOLOGRAMS	46	**8,893**	193.33	2015.2
5	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;CESIUM LEAD HALIDE PEROVSKITE NANOCRYSTALS	40	**8,565**	214.12	2015.6
6	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	30	**8,326**	277.53	2014.9

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7	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;STRETCHABLE ALL-SOLID SUPERCAPACITORS BASED	42	**7,565**	180.12	2014
8	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	**7,381**	351.48	2014.2
9	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	42	**6,630**	157.86	2015

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10	FLUORESCENT/PHOTOACOUSTIC/ULTRASOUND IMAGING GUIDED TUMOR PHOTODYNAMIC THERAPY;VIVO DUAL-MODAL CT/PHOTOACOUSTIC IMAGING GUIDED PHOTOTHERMAL THERAPY;MULTIMODAL IMAGING GUIDED PHOTOTHERMAL THERAPY;VIVO MULTIMODAL IMAGING-GUIDED PHOTOTHERMAL THERAPY;EFFECTIVE CANCER THERAPY	46	**6,406**	139.26	2015
11	MONOLAYER MOS2;MONOLAYER TRANSITION METAL DICHALCOGENIDE SEMICONDUCTOR;MONOLAYER WSE2;MONOLAYER TRANSITION METAL DICHALCOGENIDES;MONOLAYER WS2	19	**6,390**	336.32	2013.8
12	HIGHLY EFFICIENT OIL/WATER SEPARATION;SELECTIVE EFFICIENT OIL/WATER SEPARATION;EFFICIENT GRAVITY-DRIVEN OIL/WATER SEPARATION;EFFICIENT OIL/WATER SEPARATION;HIGHLY EFFICIENT OIL-WATER SEPARATION	37	**6,389**	172.68	2014.1
13	SELF-SUSTAINED TOPOLOGICAL MAJORANA PHASE;MAJORANA BOUND STATES;MAJORANA ZERO-BIAS CONDUCTANCE PEAKS;DISENTANGLING MAJORANA ZERO MODES;BALLISTIC MAJORANA NANOWIRE DEVICES	50	**6,126**	122.52	2015.6

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14	STABLE LITHIUM METAL ANODES;THREE-DIMENSIONAL STABLE LITHIUM METAL ANODE;STABLE LITHIUM METAL BATTERIES;DENDRITE-FREE LITHIUM METAL ANODES;DENDRITE-FREE LITHIUM METAL ANODE	47	**5,971**	127.04	2016.1
15	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	**5,783**	963.83	2014
16	CYCLING LI-O-2 BATTERIES;ADVANCED LI-O-2 BATTERIES;AQUEOUS LI-O-2 BATTERIES;NON-AQUEOUS LI-O-2 BATTERIES;RECHARGEABLE LI-O-2 BATTERIES	24	**5,711**	237.96	2014.2
17	HYBRID LEAD IODIDE PEROVSKITE SOLAR CELLS;LATERAL STRUCTURE HYBRID PEROVSKITE SOLAR CELLS;LEAD HALIDE PEROVSKITE SOLAR CELLS;CH3NH3PBI3 PEROVSKITE SOLAR CELLS;CH3NH3PBX3 PEROVSKITE SOLAR CELLS	15	**5,615**	374.33	2014.9

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18	TRANSPARENT CONDUCTIVE TWO-DIMENSIONAL TITANIUM CARBIDE EPITAXIAL THIN FILMS;POROUS TWO-DIMENSIONAL TRANSITION METAL CARBIDE (MXENE) FLAKES;CONDUCTIVE TWO-DIMENSIONAL TITANIUM CARBIDE CLAY;TWO-DIMENSIONAL TRANSITION METAL CARBIDES;TWO-DIMENSIONAL TITANIUM CARBIDE	21	**5,497**	261.76	2014.2
19	REFINED NONLOCAL SHEAR DEFORMATION THEORY BEAM THEORY;FUNCTIONALLY GRADED TRIGONOMETRIC SHEAR DEFORMABLE NANOBEAMS INCLUDING NEUTRAL SURFACE POSITION CONCEPT;FOUR VARIABLE REFINED NTH-ORDER SHEAR DEFORMATION THEORY;NEW SIMPLE THREE-UNKNOWN SINUSOIDAL SHEAR DEFORMATION THEORY;NEW QUASI-3D HYPERBOLIC SHEAR DEFORMATION THEORY	49	**5,368**	109.55	2015.8
20	COST-EFFECTIVE 3D HYDROGEN EVOLUTION CATHODE;HYDROGEN EVOLUTION REACTION;ELECTROCATALYTIC HYDROGEN EVOLUTION;ELECTROCHEMICAL HYDROGEN EVOLUTION;HYDROGEN EVOLUTION	13	**5,275**	405.77	2013.9