周如龙

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教师简介：

姓 名： 周如龙
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电 话：

个人简历：

男，1977年10月出生。2001年6月本科毕业于南京大学物理系晶体物理专业，获理学学士学位。从2001年7月开始至今在合肥工业大学材料学院材料物理系工作，承担教学和科研任务。2003年9月至2008年6月在中国科学技术大学物理系在职攻读博士学位，于2008年6月获理学博士学位。2010年9月至2012年8月在美国内布拉斯加大学林肯分校化学系曾晓成教授实验室进行博士后研究。现任材料物理及新能源材料与器件系系主任。

主要研究领域、方向：

先进能源环境材料、光催化材料、半导体材料、发光材料等先进功能材料的结构、性质、机理的理论计算与模拟。

研究成果（代表性成果）：

以第一作者或通讯作者在J. Am. Chem. Soc.，Phys. Rev. X, Adv. Fun. Mater., ACS. Nano，Chem. Mater.，Nanoscale，ACS Appl. Mater. Interface，J. Mater. Chem. C，Phys. Rev. B，J. Phys. Chem. C，Phys. Chem. Chem. Phys.，J. Chem. Phys. 等国际著名期刊上发表高水平SCI论文三十余篇，其中中科院论文分区1区论文13篇，2区论文10篇；其中影响因子7以上论文11篇，论文平均影响因子接近7。

代表性成果：

（1）光催化材料：Adv. Funct. Mater. 2018, 28 (8), 1705529； ACS Appl Mater Interfaces 2016, 8 (40), 27403-27410

（2）能源与环境材料：Physical Review X 2014, 4 (1) , 011030； RSC Advances 2016, 6 (32), 26650-26657

（3）半导体材料：J. Am. Chem. Soc. 2012, 134 (17)； Nanoscale 2013, 5 (9), 3880-3888； Nanoscale 2014, 6 (20), 11685-11691； Nanoscale 2016, 8 (36), 16467-16474

（4）发光材料：Chem. Mater. 2015, 27, 2915-2202； ACS Appl Mater Interfaces 2016, 8 (8), 5439-5444；Carbon 2017, 122, 176-184

目前承担科研项目:

目前正在承担国家自然科学基金NSAF联合资助基金项目一项，直接经费64万。

获奖情况：

“三育人”先进个人，优秀班主任

著作论文（代表作）：

1.Zhou, R.; Qu, B.; Li, D.; Sun, X.; Zeng, X. C. Anatase (101) Reconstructed Surface with Novel Functionalities: Desired Bandgap for Visible Light Absorption and High Chemical Reactivity. Adv. Funct. Mater. 2018, 28 (8), 1705529.

2.Lei, Y.; Sun, X.; Zhou, R.; Zhang, B. Embedded atom method potentials for Ce-Ni binary alloy. Computational Materials Science 2018, 150, 1-8.

3.Zhou, R.; Dai, J.; Cheng Zeng, X. Structural, electronic and mechanical properties of sp3-hybridized BN phases. Phys. Chem. Chem. Phys. 2017, 19 (15), 9923-9933.

4.Wang, L.; Zhang, J. H.; Qu, B. Y.; Wu, Q. S.; Zhou, R. L.; Li, D. D.; Zhang, B.; Ren, M. X.; Zeng, X. C. Mechanistic insights into tunable luminescence and persistent luminescence of the full-color-emitting BCNO phosphors. Carbon 2017, 122, 176-184.

5.Sun, X.; Zhou, R.; Zhang, B. Correlation between the electronic structure, topologic structure and dynamic properties of liquid cerium. Phys. Chem. Chem. Phys. 2017, 19 (45), 30498-30503.

6.Sun, X.; Lei, Y.; Zhou, R.; Qu, B.; Li, D.; Zhang, B.; Zeng, X. C. New phases of 3d-transition metal-cerium binary compounds: an extensive structural search. RSC Advances 2017, 7 (64), 40486-40498.

7.Li, D.; Chen, H.; Sun, X.; Qu, B.; Zhou, R.; Zhang, B. Structural evolution and atomic diffusion behavior in the Ce70Al10Cu20 melt under compression: A theoretical study using ab-initio molecular dynamics simulations. J. Appl. Phys. 2017, 122 (13), 135106.

8.Zhou, R.; Li, D.; Qu, B.; Sun, X.; Zhang, B.; Zeng, X. C. Rutile TiO2(011)-2 × 1 Reconstructed Surfaces with

Optical Absorption over the Visible Light Spectrum. ACS Appl Mater Interfaces 2016, 8 (40), 27403-27410.
9.Qu, B.; Zhang, B.; Wang, L.; Zhou, R.; Zeng, X. C.; Li, L. Persistent Luminescence Hole-Type Materials by Design: Transition-Metal-Doped Carbon Allotrope and Carbides. ACS Appl Mater Interfaces 2016, 8 (8), 5439-5444.
10.Qu, B.; Li, D.; Wang, L.; Wu, J.; Zhou, R.; Zhang, B.; Zeng, X. C. Mechanistic study of pressure and temperature dependent structural changes in reactive formation of silicon carbonate. RSC Advances 2016, 6 (32), 26650-26657.
11.Li, D.; Qu, B.; He, H. Y.; Zhang, Y. G.; Xu, Y.; Pan, B. C.; Zhou, R. The influence of liquid Pb-Bi on the anti-corrosion behavior of Fe3O4: a first-principles study. Phys. Chem. Chem. Phys. 2016, 18 (11), 7789-7796.
12.Li, D.; Li, P.; Qu, B.; Pan, B. C.; Zhang, B.; He, H. Y.; Zhou, R. New structures of bilayer germanium nanosheets predicted by a particle swarm optimization method. Nanoscale 2016, 8 (36), 16467-16474.
13.Qu, B.; Zhang, B.; Wang, L.; Zhou, R.; Zeng, X. C. Mechanistic Study of the Persistent Luminescence of CaAl2O4:Eu,Nd. Chem. Mater. 2015, 27, 2915-2202.
14.Li, P.; Zhou, R.; Zeng, X. C. Computational Analysis of Stable Hard Structures in the Ti–B System. ACS Appl Mater Interfaces 2015, 7 (28), 15607-15617.
15.Zhou, R.; Qu, B.; Zhang, B.; Lib, P.; Zeng, X. C. Role of vacancies to p-type semiconducting properties of SiGe nanowires. Journal of Materials Chemistry C 2014, 2 (32), 6536-6546.
16.Zhou, R.; Qu, B.; Dai, J.; Zeng, X. C. Unraveling Crystalline Structure of High-Pressure Phase of Silicon Carbonate. Physical Review X 2014, 4 (1), 011030.
17.Li, P.; Zhou, R.; Zeng, X. C. The search for the most stable structures of silicon-carbon monolayer compounds. Nanoscale 2014, 6 (20), 11685-11691.
18.Li, P.; Zhou, R.; Pan, B.; Zeng, X. C. Efficient electron and hole doping in compositionally abrupt Si/Ge nanowires. Nanoscale 2013, 5 (9), 3880-3888.
19.Zhou, R.; Zeng, X. C. Polymorphic Phases of sp(3)-Hybridized Carbon under Cold Compression. J. Am. Chem. Soc. 2012, 134 (17), 7530-7538.
20.Zhou, R. L.; Zuo, R. Z.; Wang, L.; Zhang, B. H.; Pan, B. C. Size- and surface-dependent electronic structures of crystalline SiC nanotubes. J. Appl. Phys. 2011, 109 (8).
21.Zhou, R.; Wei, X.; He, K.; Shield, J. E.; Sellmyer, D. J.; Zeng, X. C. Theoretical and Experimental Characterization of Structures of MnAu Nanoclusters in the Size Range of 1-3 nm. Acs Nano 2011, 5 (12), 9966-9976.
22.Zhou, R.; Liu, R.; Li, L.; Wu, X.; Zeng, X. C. Carbon Nanotube Superarchitectures: An Ab Initio Study. Journal of Physical Chemistry C 2011, 115 (37), 18174-18185.
23.Zhou, R. L.; Wang, L.; Pan, B. C. Elastic and Melting Properties of Crystalline SiC Nanotubes. Journal of Physical Chemistry C 2010, 114 (18), 8199-8205.
24.Zhou, R. L.; Zhao, L. Y.; Pan, B. C. Compressing liquid: An efficient global minima search strategy for clusters. J. Chem. Phys. 2009, 131 (3).
25.Zhou, R. L.; Pan, B. C. Improved endohedral fullerenelike structures of silicon clusters Si-31-Si-39 by density functional calculations. EPJD 2008, 47 (3), 367-372.
26.Zhou, R. L.; Pan, B. C. Low-lying isomers of Si(n)(+) and Si(n)(-) (n=31-50) clusters. J. Chem. Phys. 2008, 128 (23).
27.Zhou, R. L.; Pan, B. C. Identification of silicon clusters by electron diffraction spectra. Journal of Physical Chemistry C 2007, 111 (16), 5850-5854.
28.Zhou, R. L.; Pan, B. C. Structural features of silicon clusters Si-n (n=40-57, 60). Phys. Lett. A 2007, 368 (5), 396-401.
29.Zhou, R. L.; He, H. Y.; Pan, B. C. Enhancing the topological structures of defected carbon nanotubes with adsorbed hydrocarbon radicals at low temperatures. Phys. Rev. B 2007, 75 (11).
30.Zhou, R. L.; Pan, B. C. Possible lowest-reactivity structure of the silicon cluster Si-45. Phys. Rev. B 2006, 73 (4).