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学科方向:

周张凯教授（博士和硕士生导师）长期从事光与微纳结构相互作用的规律以及器件应用研究，主讲课程包括固体物理，信号与系统，非线性光学等。周张凯教授在微纳光学领域发表SCI论文70余篇，授权专利5项（包括美国专利1项），论文引用2400余次。以周张凯教授为第一作者或者通讯作者发表SCI论文40余篇（中科院1区杂志文章20余篇），论文发表杂志包括Light-Sci. Appl., Phys. Rev. Lett., Nat. Comm., Nano Lett., ACS Nano, Adv. Funct. Mater., Small等，他主要的研究方向包括：

1）基于超材料体系的光学非线性与微纳光学器件（比如，纳米传感与光源器件）；

2）基于超构表面的光场调控及其光信息器件（比如，光信息加密与存储器件）；

3）基于表面等离激元的量子强耦合调控及其室温光量子器件。

承担的科研项目包括:

1、主持广东省自然科学基金粤港合作项目，2021-2022年，100万。

2、主持广东省自然科学基金杰出青年项目，2017-2021年，100万。

3、国家重点研发计划骨干成员，2016-2021年，负责经费190万。

4、主持国家自然科学基金面上项目，2020-2023年，直接经费63万。

5、主持国家自然科学基金面上项目，2017-2020年，直接经费60万。

6、主持广州市“珠江科技新星”项目，2018-2021年，30万。

7、主持高校基本业务费青年教师重点培育项目，2020-2021年，20万。

8、主持高校基本业务费重大项目培育和新兴交叉学科培育计划项目，2016-2018年，20万。

9、主持国家自然科学基金中英合作项目，2015-2017年，10万。

10、主持国家自然科学基金青年科学基金，2013-2015年，30万。

每年招收光学方向硕士和博士研究生，待遇从优，并提供国外交流学习机会。

荣誉获奖:

1. 2021年：中山大学教学成果奖二等奖（第一完成人）
2. 2018年："广东特支计划"科技创新青年拔尖人才
3. 2017年：广东省杰出青年基金获得者，入选广州市珠江科技新星
4. 2017年：中山大学青年教师授课大赛二等奖，中山大学本科教学“芙兰奖”
5. 2016年：广东省第六届大学生材料创新大赛，优秀指导老师
6. 2015年：中山大学本科教学“芙兰奖”
7. 2012年：湖北省优秀博士学位论文
8. 2012年：广东省第十三届大学生物理实验设计大赛一等奖指导老师

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代表论著:

代表性论文（*表示通讯作者, #表示共同第一作者）：

56. **Z. K. Zhou**, H. F. Xu, Y. Yu, L. Lin, X. H. Wang*, "Giant nonlinear response of monolayer MoS2 induced by optimal field-enhancement gain mode on the surface of hyerbolic metamaterials", *Laser & Photon. Rev.*

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51. L. Zhang, Q. Fu, Y. Tan, X. Li, Y. Deng, **Z. K. Zhou***, B. Zhou, H. Xia, H. Chen, C. W. Qiu*, J. Zhou*, "Metaoptronic multiplexed interface for probing bioentiy behaviors", *Nano Lett.* 21, 2681 (2021).

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45. Z. Liao#, H. Xu#, W. Zhao*, H. Yang, J. Zhong, H. Zhang, Z. Nie, **Z. K. Zhou***, "Energy transfer from Mn4+ to Mn5+ and near infrared emission with wide excitation band in Ca14Zn6Ga10O35:Mn phosphors", *Chem. Eng. J.* 395, 125060 (2020).

44. **Z. K. Zhou#**, J. Liu#, Y. Bao, L. Wu, C. E. Png, X. H. Wang*, C. W. Qiu*, "Quantum plasmonics get applied", *Prog. Quant. Electron.* 65, 1 (2019).

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41. Y. Yi, Z. Chen, X. F. Yu, **Z. K. Zhou***, J. Li*, "Recent advances in quantum effects of 2D materials", *Adv. Quantum Technol* 2, 1800111 (2019).

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5. Z. Li, Y. Yu, Z. Chen, T. Liu, **Z. K. Zhou***, J. B. Han*, J. Li, C. Jin, X. Wang, "Ultrafast third-order optical nonlinearity in Au triangular nanoprism with strong dipole and quadrupole plasmon resonance", *J. Phys. Chem. C* 117, 20127 (2013).

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