



姓名：张希珍

教学职位：教授

学院职位：硕士生导师

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教育背景

日本产业技术综合研究所 博士后、访问研究员（2008-2012）
吉林大学理学 博士（2002-2007）
吉林大学工学 学士（1998-2002）

研究领域

当前研究方向：钙钛矿量子点玻璃及稀土离子发光材料相关物理原理、材料特性及应用。曾研究：MOS 电容模型及其测量方法；铁电场存储器材料与器件；集成光波导器件。

论文类（本人通讯或一作）：

代表性成果

- [1] A new MOS capacitance correction method based on five-element model by combining double-frequency C-V and I-V measurements, IEEE Electr. Device L., 37, 1328-1331, 2016.
- [2] Single frequency correction based on three-element model for thin dielectric MOS capacitor, Solid-State Electron., 129, 97-102, 2017.
- [3] Frequency dispersion analysis of thin dielectric MOS capacitor in a five-element model, J. Phys. D: Appl. Phys., 51, 055105, 2018.
- [4] Error analysis and frequency selection guidelines for three-frequency correction in MOS capacitors, Semicond. Sci. Technol., 33, 115006, 2018.
- [5] Electric and dielectric characteristics of Al/ZrO₂/IL/n-Si MOS capacitors using three-frequency correction method, Results Phys., 12, 681-686, 2019.
- [6] Improved photoluminescence quantum yield of CsPbBr₃ quantum dots glass ceramics, J. Am. Ceram. Soc., 103, 5028-5035, 2020.
- [7] Excellent exciton luminescence of CsPbI₃ red quantum dots in borate glass, J. Non-Cryst. Solids, 541, 120066, 2020.
- [8] Color-adjustable CsPbBr_{3-x}I_x quantum dots glasses for wide color gamut display, J. Non-Cryst. Solids, 551, 120432, 2021.
- [9] Long-wavelength pass filter using green CsPbBr₃ quantum dots glass,

Opt. Laser Technol., 138, 106857, 2021.

[10] Blue and green light exciton emission of chloro-brominated perovskite quantum dots glasses, Opt. Mater., 122, 111654, 2021.

[11] Wide gamut white LED device using green CsPbBr₃ quantum dots glass and red K₂SiF₆: Mn⁴⁺ phosphor, Optik, 248, 168156, 2021.

[12] Excellent long-wavelength-pass filters of CsPbBr₃ and CsPb(Cl/Br)₃ quantum dot glasses by Cu²⁺ quenching strategy, J. Opt. Soc. Am. B, 39, 2120-2128, 2022.

[13] Tri-chromatic luminescence of CsPb(Cl/Br)₃ quantum dots-Tb³⁺-Mn²⁺ co-doped single component glasses for white LED application, Journal of Luminescence, 252, 119342, 2022.

[14] Controlled growth and spectroscopy characterization of blue violet perovskite quantum dots in borate glasses, Ceramics International, 49(12), 20281-20289, 2023.

[15] Optical temperature sensing of four modes by using CsPb(Cl/Br)₃ quantum dots and Tb³⁺ ions co-doping glass. Ceramics International, 49 (15), 1069-1077, 2023.

[16] CsPbX₃ (X=Cl/Br, Br, Br/I, I) quantum dots and copper ions co-doped boro-germanate glasses for long wavelength pass filters, Journal of Alloys and Compounds, 969, 172380, 2023.

[17] Improving luminescence characteristics of Ni²⁺ doped CsPbX₃ (X=Br/I, I) quantum dots in borogermanate glass for wide color gamut display, Ceramics International, 49 (24), 40532-40540, 2023.

[18] Comparative study on fluorescence intensity ratio and chromatic coordinate temperature measurement using CsPbBr₃-Eu³⁺ co-doped glass, Measurement, 229, 114453, 2024.

[19] Se⁴⁺ doped CsPbX₃ (X=Cl/Br, Br, Br/I, I) perovskite quantum dot glasses for long wavelength pass filters with deep energy level quenching mechanism, Ceramics International, 50 (14), 25640-25649, 2024.

[20] CsPb(Br/Cl)₃-Sm³⁺ codoped glasses for optical temperature sensing in FIR and chromatic coordinate modes, Materials Science in Semiconductor Processing 185, 108876, 2025.

[21] Er³⁺-Yb³⁺ codoped oxyfluoride germanate glass ceramics containing SrF₂ nanocrystals for 1.5 μm optical amplification. J Am Ceram Soc. 108(3), e20259, 2025.

[22] Tuning luminescence wavelength of CsPbI₃ quantum dots glasses using Sn doping and rapid thermal treatment for wide gamut, Ceramics International, 51, 3934-3942, 2025.

[23] Bi³⁺-doped CsPbX₃ (X = Cl/Br, Br, Br/I, I) quantum dots in borogermanate glasses for short-wave cut-off filters, J Am Ceram Soc. 108 (12), e70152, 2025.

[24] Anti-counterfeiting application of multicolor-emitting on Er³⁺-Yb³⁺ codoped oxyfluoride germanate glasses, Optical Materials, 167, 117342,

2025.

[25] Enhancing UV response of Si photodetector using CsPbBr₃ and CsPbBr₃/Ce³⁺ doped glasses as downshift conversion materials, *Ceramics International*, 51, 57842–57851, 2025.

[26] (Rb/Cs)PbBr₃ doped QD glass downshift conversion materials for UV response of Si photodetector, *Journal of Non-Crystalline Solids*, 669, 123813, 2025.

[27] Enhancing UV response of Si photoelectronic devices by using Ce³⁺/Tb³⁺ co-doped glass as downshift conversion materials, *Optical Materials*, 170, 117746, 2026.

专利：
获得授权 4 项国家发明专利。

代表性项目

- (1) 辽宁省博士启动基金,20170520082, 超薄 MOS 电容模型及测量方法研究, 2017.09-2019.08, 主持, 已结题。
- (2) 辽宁省自然科学基金面上项目, 2021-MS-137, LED 显示光源用绿光钙钛矿量子点和窄带红光荧光粉融合的复合荧光玻璃, 2021.8.1-2023.7.31, 主持, 已结题。

荣誉奖励

- (1) 辽宁省自然科学优秀成果奖-优秀论文三等奖, 辽宁省科学技术协会, 2018 年。
- (2) 大连市高层次人才—青年才俊, 2020 年。
- (3) 大连海事大学优秀硕士研究生导师, 2022 年。
- (4) 大连海事大学优秀硕士研究生学位论文指导教师, 2024 年。
- (5) 大连海事大学优秀学术论文奖、科研成果奖, 多次。

社会兼职

曾是 IEEE 电气电子工程师学会会员; 现为 10 多个国际期刊审稿人。

其他

毕业生大部分就业（电子和物理相关公司）、少部分攻读博士学位。欢迎热爱科学研究，对研究方向感兴趣的本科生同学报考研究生。希望英语较好，做事认真、勤奋。