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教育背景

香港中文大学（深圳）理工学院 助理研究员 （2018-2019）
秋田大学（日本）理工学院 博士后研究员 （2014-2018）
东北大学 材料加工工程专业 工学博士（2009-2014）
东北大学 理论物理专业 理学硕士（2007-2009）
东北大学 应用物理专业 理学学士（2003-2007）

研究领域

研发荧光粉材料，荧光玻璃。

代表性成果

论文类：

(1) L. Li, Y.Z. Cao*, T.S. Liu, X.L Yan, X.K. Wanga, J.S. Zhang, X.Z. Zhang, B.J. Chen*, Effect of Zn^{2+}, S^{2-}, Mo^{4+} and V^{5+} single doped $BiTa_7O_{19}$:Er^{3+}/Yb^{3+} upconversion luminescence intensity under 980 nm laser excitation, Journal of Luminescence, accepted.

(2) X.K. Wang, Y.Z. Cao*, X.L Yan, L. Li, X.Z. Zhang, J.S. Zhang, B.J. Chen*, Mn^{2+} doped low melting K_2O–SnO–P_2O_5 glass for plant cultivation, Applied Physics A 129 (2023) 794.

(3) X.L. Yan, Y.Z. Cao*, K.X. Wang, L. Li, H.Q. Cui, Y.H. Zhang, J.S. Zhang, B.J. Chen*, Luminescence thermal enhancement of Eu^{3+} using charge transfer band excitation in $Li_6Zn_3(BO_3)_4$:Eu^{3+} phosphors, J. Mater Sci: Mater Electron, 34 (2023) 1967.

(4) T.X. Peng, Y.Z. Cao*, H.Q. Cui, Y. Li, Y.H. Zhang, L. Li, J.S. Zhang, X.Z. Zhang, B.J. Chen*, Upconversion NIR luminescence negative thermal quenching and temperature sensing in $LiYGeO_4$:Yb^{3+}/Nd^{3+}

phosphors, Materials Chemistry and Physics, 309 (2023) 128309.
(5) L. Li, Y.Z. Cao*, H.Q. Cui, G.J. Li, Y. Li, Y.H. Zhang, J.S. Zhang, B.J. Chen*, Improving upconversion luminescence intensity of $BiTa_7O_{19}:Er^{3+}/Yb^{3+}$ by polyvalent Sb co-doping, Dalton Transactions, 52 (2023) 8770-8777.
(6) L. Li, Y.Z. Cao*, H.Q. Cui, G.J. Li, Y. Li, J.S. Zhang, B.J. Chen*, Upconversion luminescence thermal enhancement from visible to near infrared and improving temperature sensitivity under high temperature using a second-harmonic generation response, Materials Today Chemistry, 29 (2023) 101487.
(7) H.Q. Cui, Y.Z. Cao*, L. Zhang, Y. Li, Y.H. Zhang, L. Li, J.S. Zhang, B.J. Chen*, Abnormal upconversion luminescence induced by defects and Er3+-Yb3+ distance change in Cs3GdGe3O9:Er3+/Yb3+ phosphors, Journal of the American Ceramic Society, 106 (2023) 3024-3034.
(8) L. Li, Y.Z. Cao*, Y.H. Zhang, H.Q. Cui, G.J. Li, J.S. Zhang, X.Z. Zhang, B.J. Chen*, Excellent upconversion luminescence intensity in $Er^{3+}/Yb^{3+}/Mo^{4+}$ triple-doped $BiTa_7O_{19}$ phosphors, Journal of Alloys and Compounds, 938 (2023) 168725.
(9) H.Q. Cui, Y.Z. Cao*, Y.H. Zhang, L. Li, G.J. Li, S. Xu, Y.C. Wang, J.S. Zhang, B.J. Chen*, Upconversion luminescence thermal enhancement and emission color modulation of $LiYGeO_4:Er^{3+}/Yb^{3+}$ phosphors, Journal of Alloys and Compounds, 927 (2022) 167107.
(10) H.Q. Cui, Y.Z. Cao*, Y. Li, L. Li, Y.H. Zhang, G.J. Li, Y.C. Wang, X.P. Li, B.J. Chen*, Upconversion thermal enhancement of $^2H_{11/2}\rightarrow{}^4I_{15/2}$ of Er^{3+} and blue emission of impurity Tm^{3+} in $Sr_3(PO_4)_2:Er^{3+}/Yb^{3+}$, International Journal of Applied Ceramic Technology, 19 (2022) 3358-3366.
(11) H.Q. Cui, Y.Z. Cao*, Y.H. Zhang, L. Li, G.J. Li, S. Xu, Y.C. Wang, J.S. Zhang, B.J. Chen*, Thermal enhancing effect of upconversion luminescence in Er^{3+}/Yb^{3+} co-doped $Cs_3BiSr(P_2O_7)_2$ phosphors, Dalton Transactions, 51 (2022) 12352-12361.
(12) L. Li, Y.Z. Cao*, H.Q. Cui, Y.H. Zhang, G. J. Li, Y.C. Wang, X.P. Li, S. Xu, B.J. Chen*, Upconversion luminescence color modulation and temperature sensing of $Na_{0.5}Bi_{2.5}Nb_{2-x}Ta_xO_9:Er^{3+}/Yb^{3+}$ phosphors, Journal of the American Ceramic Society, 105 (2022) 6640-6651.
(13) T.X. Peng, Y.Z. Cao*, H.Q. Cui, Y.H. Zhang, Y.C. Wang, X.P. Li, X.Z. Zhang, B.J. Chen*, Rapid screening of up-conversion luminescence phosphors with host containing Yb^{3+} by 980 nm laser radiation, Optik, 259 (2022) 169045.
(14) H.Q. Cui, Y.Z. Cao*, L. Li, G.J. Li, Y.H. Zhang, S. Xu, Y.C. Wang, X.P. Li, B.J. Chen*, $Cs_2Bi_2Sr(P_2O_7)(PO_4)_2:Er^{3+}/Yb^{3+}$ phosphors for outstanding thermal enhancement of up-conversion under 980 and 1550 nm laser excitations in the 303 to 723 K range, Chemical Engineering Journal Advances, 10 (2022) 100242.

(15) H.Q. Cui, Y.Z. Cao*, Y.H. Zhang, S.Y. Ran, H.Q. Yu, S. Xu, J.S. Sun, J.S. Zhang, B.J. Chen*, Thermal enhancement of $^2H_{11/2} \rightarrow {}^4I_{15/2}$ up-conversion luminescence of $BaLu_6(Si_2O_7)_2(Si_3O_{10}):Er^{3+}/Yb^{3+}$ phosphors, Optik, 252 (2022) 168544.
(16) H.Q. Cui, Y.Z. Cao*, Y.H. Zhang, T.X. Peng, L. Cao, S.Y. Ran, Y.C. Wang, D.Y. Wu, X.P. Li, X.Z. Zhang, B.J. Chen*, Thermal enhancement of up-conversion luminescence in $Lu_2W_{2.5}Mo_{0.5}O_{12}:Er^{3+},Yb^{3+}$ phosphors, Ceramics International, 47 (15), 21271-21275, 2021.
(17) H.Q. Cui, Y.Z. Cao*, L. Zhang, Y.H. Zhang, S.Y. Ran, L. Cao, Y.C. Wang, D.Y. Wu, X.P. Li, X.Z. Zhang, L.R. Zhang, B.J. Chen*, Thermal enhancement of the $^2H_{11/2}$-$^4I_{15/2}$ up-conversion luminescence of Er^{3+}-doped $K_2Yb(PO_4)(MoO_4)$ phosphors, Journal of Materials Chemistry C, 9, 12159, 2021.
(18) H.Q. Cui, Y.Z. Cao*, Y.H. Zhang, L. Cao, S.Y. Ran, X. Wang, D.Y. Wu, X.P. Li, X.Z. Zhang, B.J. Chen*, Extremely intense green up-conversion luminescent and ultra-high temperature sensitivity in Er^{3+}/Yb^{3+} co-doped $BiTa_7O_{19}$ phosphors, Journal of Luminescence, 241, 118484, 2022.
(19) T.X. Peng, Y.Z. Cao*****, H.Q. Cui, Y.H. Zhang, Y.C. Wang, X.P. Li, X.Z. Zhang, B.J. Chen*****, Enhancement of green upconversion luminescence and temperature sensitivity of $Zr_2(WO_4)(PO_4)_2:Er^{3+},Yb^{3+}$ phosphors by co-doping Li^+ ions, Journal of Alloys and Compounds, 893, 162345, 2022.
(20) Y.H. Zhang, Y.Z. Cao*, Y. Zhao, X. Wang, S.Y. Ran, L. Cao, L.R. Zhang, B. Chen*, Optical temperature sensor based on upconversion luminescence of Er^{3+} doped $GaTaO_4$ phosphors, Journal of the American Ceramic Society, 104, 361-368, 2021.
(21) Y.Z. Cao, Y. Zhao, J. Tang, H.F. Du, Y. Zhou, H. Saito, Direct visualization of magnetic domain wall motion in Nd-Fe-B magnets by alternating magnetic force microscopy using Co-GdO_x superparamagnetic tip, Ultramicroscopy, 212, 112980, 2020.
(22) 曹永泽，赵越. 交变力磁力显微镜在三维空间同时观测静态和动态磁畴, 物理学报，68(16), 168502, 2019.
(23) Y.Z. Cao, P. Kumar, Y. Zhao, Y. Suzuki, S. Yoshimura, H. Saito, High magnetization Co-GdO_x superparamagnetic granular films as magnetic coating materials for high-sensitivity alternating magnetic force microscopy tip, Journal of Magnetism and Magnetic Materials, 462, 119-126, 2018.
(24) Y.Z. Cao, S. Nakayama, P. Kumar, Y. Zhao, Y. Kinoshita, S. Yoshimura, H. Saito, Magnetic domain structure imaging near sample surface with alternating magnetic force microscopy by using AC magnetic field modulated superparamagnetic tip, Nanotechnology, 29, 305502, 2018.
(25) Y.Z. Cao, P. Kumar, Y. Zhao, S. Yoshimura, H. Saito, Active

magnetic force microscopy of Sr-ferrite magnet by stimulating magnetization under an AC magnetic field: direct observation of reversible and irreversible magnetization processes, Applied Physics Letters, 112, 223103, 2018.

(26) Y.Z. Cao, Y. Zhao, P. Kumar, S. Yoshimura, H. Saito, Magnetic domain imaging of a very rough fractured surface of Sr ferrite magnet without topographic crosstalk by alternating magnetic force microscopy with a sensitive FeCo-GdO_x superparamagnetic tip, Journal of Applied Physics, 123, 224503, 2018.

(27) Y.Z. Cao, Q. Wang, G.J. Li, Y.H. Ma, J.J. Du, J.C. He, Effects of magnetic flux densities on microstructure evolution and magnetic properties of molecular-beam-vapor-deposited nanocrystalline $Fe_{30}Ni_{70}$ thin films, Thin Solid Films, 593, 53-61, 2015.

(28) Y.Z. Cao, Q. Wang, G.J. Li, J.J. Du, X.G. Wang, J.C. He, Effects of a high magnetic field on structure evolution and properties of the molecular beam vapor deposited $Fe_{60}Ni_{40}$ nanoparticles thin films, Journal of Magnetism and Magnetic Materials, 372, 91-96, 2014.

(29) Y.Z. Cao, Q. Wang, G.J. Li, J.J. Du, C. Wu, J.C. He, Effects of high magnetic field on the structure evolution, magnetic and electrical properties of the molecular beam vapor deposited Fe_xNi_{1-x}(0.3<=x<=0.8) thin films, Journal of Magnetism and Magnetic Materials, 332, 38-43, 2013.

(30) Y.Z. Cao, Q. Wang, G.J. Li, Y.H. Ma, X.D. Sui, J.C. He, Effects of high magnetic field on the growth and magnetic properties of Fe-Ni nano-polycrystalline thin films with different thickness values, Acta Physica Sinica, 64(6), 067502, 2015.

(31) Y.Z. Cao, G.J. Li, Q. Wang, Y.H. Ma, H.M. Wang, J.C. He, Effects of high magnetic field on the microstructure and magnetic properties of $Fe_{80}Ni_{20}$ thin films with different thickness values, Acta Physica Sinica, 62(22), 227501, 2013.

(32) Y.Z. Cao, Q. Wang, G.J. Li, Y.H. Ma, J.J. Du, J.C. He, Effects of different magnetic flux densities on microstructure and magnetic properties of molecular-beam-vapor-deposited nanocrystalline $Fe_{64}Ni_{36}$ thin film, Frontiers of Materials Science, 9(2), 163-169, 2015.

会议类：

(1) 李蕾，曹永泽，陈宝玖，Er^{3+}/Yb^{3+}掺杂无序层状 α-U_3O_8 结构 (BiTa)Ta_6O_{19} 的上转换荧光，第十六届全国发光学学术会议，唐山，2023.9.22-25.

(2) Y.Z. Cao, G. Egawa, S. Yoshimura, H. Saito, Magnetic imaging of DC and AC components of magnetization at fractured surface of Ferrite magnet by alternating magnetic force microscopy (the 40th Annual Conference on Magnetics in Japan, 2016).

(3) Y.Z. Cao, G. Egawa, S. Yoshimura, H. Saito, Development of

magnetic imaging for fractured surface of permanent magnets by alternating magnetic force microscopy with superparamagnetic tip (the 40th Annual Conference on Magnetics in Japan, 2016).
(4) Y.Z. Cao, G. Egawa, S. Yoshimura, H. Saito, Novel static magnetic field imaging with fixed measuring direction for fractured surface of Sr ferrite magnet by alternating magnetic force microscopy with superparamagnetic FeCo-Gd_2O_3 tip (IEEE, Transactions on Magnetics – Conferences, 2017).
(5) Y.Z. Cao, 江川元太, 吉村 哲, 齊藤 準, 槙智仁, 西内武司, 超常磁性探針を利用した交番磁気力顕微鏡による NdFeB 焼結磁石の可逆的な磁壁移動の観察(第 160 回 日本金属学会 春季講演大会, 2017).
(6) Y.Z. Cao, Y. Suzuki, P. Kumar, Y. Zhao, S. Yoshimura, H. Saito, Development of high susceptibility FeCo-Gd_2O_3 superparamagnetic films and its application to magnetic force microscopy (the 4th International Symposium on Advanced Magnetic Materials and Applications (ISAMMA), 2017).

专利类：

(1) 曹永泽，一种测量磁力显微镜探针杂散场强度的方法，发明授权 2021 年，授权公告号：CN 110412488 B。
(2) 曹永泽，一种硬盘垂直磁写头高频交流磁场的测量装置及方法，发明授权 2021 年，授权公告号：CN 111415687 B。
(3) 曹永泽，崔洪强，陈宝玖，一种铒镱共掺杂多磷酸盐上转换发光材料及其制备方法，发明授权 2023 年，授权公告号：CN 113861978 B。
(4) 曹永泽，李蕾，陈宝玖，铒镱钼三掺杂 $BiTa_7O_{19}$ 纯绿色上转换发光材料及其制备方法，发明授权 2023 年，授权公告号：CN 114806569 B。

代表性项目

(1) 辽宁省面上基金项目 1 项 2019-2020, 结题，主持。
(2) 博士后面上基金项目 1 项 2020-2021, 结题，主持。
(3) 大连市留学创新创业项目 1 项 2022-2024，在研，主持。
(4) 青年科学基金项目 51101034，强磁场下纳米颗粒的结构演化及其对薄膜生长的影响，2011/01-2014/12，已结题，参加。
(5) 青年科学基金项目 51101032 薄膜/半导体体系扩散行为和界面反应的强磁场控制研究，2011/01-2014/12，已结题，参加。
(6) 国际（地区）合作与交流项目 51061130557 强磁场辅助脉冲电沉积法生长 Co 基磁性薄膜的基础研究, 2010/01-2013/12,已结题，参加。

荣誉奖励

2016 年获得 JST/SENTAN 和 Hitachi 公司的科研资金支助。
交变力磁力显微镜研究内容于 2016 年 09 月 07 日获得日本磁气学会平成 28 年度优秀研究奖。