

## Weiyuan Sun

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### Publications

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#### PUBLICATIONS

- **Robust treatment planning for small animal radio-neuromodulation using focused kV x-ray beams.** *Medical physics*  
Qiu, C., Gu, W., Yan, H., Sun, W., Wang, Y., Wen, Q., Sheng, K., Liu, W.  
2024
- **Grating-free quantitative phase retrieval for x-ray phase-contrast imaging with conventional sources.** *Biomedical physics & engineering express*  
Sun, W., Pyakurel, U., MacDonald, C. A., Petrucci, J. C.  
2022; 8 (5)
- **Phase and dark field imaging with mesh-based structured illumination and polycapillary optics.** *Medical physics*  
Pyakurel, U., Sun, W., Cheung, P., D'Moore, D., Zhang, X., MacDonald, C. A., Petrucci, J. C.  
2021
- **Dosimetry Modeling of Focused kV X-ray Radiotherapy for Wet Age-related Macular Degeneration.** *Medical physics*  
Yan, H. n., Sun, W. n., Mruthyunjaya, P. n., Beadle, B. n., Yu, W. n., Kanwal, B. n., MacDonald, C. A., Liu, W. n.  
2020
- **Combined optic system based on polycapillary X-ray optics and single-bounce monocapillary optics for focusing X-rays from a conventional laboratory X-ray source** *NUCLEAR INSTRUMENTS & METHODS IN PHYSICS RESEARCH SECTION A-ACCELERATORS SPECTROMETERS DETECTORS AND ASSOCIATED EQUIPMENT*  
Sun, X., Liu, Z., Sun, T., Yi, L., Sun, W., Li, F., Jiang, B., Ma, Y., Ding, X.  
2015; 802: 5-9
- **Numerical design of X-ray tabletop Talbot interferometer using polycapillary optics as two-dimensional gratings with high aspect ratio** *OPTICS COMMUNICATIONS*  
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- **Numerical design of polycapillary X-ray optics as both a focusing X-ray lens and a vacuum window** *VACUUM*  
Jiang, B., Liu, Z., Sun, W., Sun, X., Li, F., Ma, Y., Sun, T.  
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- **Application of polycapillary x ray lens to eliminate both the effect of x ray source size and scatter of the sample in laboratory tomography** *CHINESE OPTICS LETTERS*  
Sun, X., Liu, Z., Sun, T., Yi, L., Sun, W., Li, F., Jiang, B., Ma, Y., Ding, X.  
2015; 13 (9)
- **A confocal three-dimensional micro X-ray scattering technology based on Rayleigh to Compton ratio for identifying materials with similar density and different weight percentages of low-Z elements** *RADIATION PHYSICS AND CHEMISTRY*  
Li, F., Liu, Z., Sun, T., Yang, C., Sun, X., Sun, W., He, J., Ding, X.  
2015; 112: 163-168
- **In situ analysis of electrocrystallization process of metal electrodeposition with confocal energy dispersive X-ray diffraction based on polycapillary X-ray optics** *NUCLEAR INSTRUMENTS & METHODS IN PHYSICS RESEARCH SECTION A-ACCELERATORS SPECTROMETERS DETECTORS AND ASSOCIATED EQUIPMENT*  
Li, F., Liu, Z., Sun, T., Yang, C., Sun, W., Sun, X., Ma, Y., Ding, X.  
2015; 785: 201-205

- **Application of confocal X-ray fluorescence micro-spectroscopy to the investigation of paint layers** *APPLIED RADIATION AND ISOTOPES*  
Sun, T., Liu, Z., Wang, G., Ma, Y., Peng, S., Sun, W., Li, F., Sun, X., Ding, X.  
2014; 94: 109-112
- **Measurement of grain size of polycrystalline materials with confocal energy dispersive micro-X-ray diffraction technology based on polycapillary X-ray optics** *NUCLEAR INSTRUMENTS & METHODS IN PHYSICS RESEARCH SECTION A-ACCELERATORS SPECTROMETERS DETECTORS AND ASSOCIATED EQUIPMENT*  
Sun, W., Liu, Z., Sun, T., Peng, S., Ma, Y., Li, F., Sun, X., Ding, X.  
2014; 764: 1-6
- **Numerical design of in-line X-ray phase-contrast imaging based on ellipsoidal single-bounce monocapillary** *NUCLEAR INSTRUMENTS & METHODS IN PHYSICS RESEARCH SECTION A-ACCELERATORS SPECTROMETERS DETECTORS AND ASSOCIATED EQUIPMENT*  
Sun, W., Liu, Z., Sun, T., Peng, S., Ma, Y., Ding, X.  
2014; 746: 33-38
- **Application of confocal technology based on polycapillary X-ray optics in three-dimensional diffraction scanning analysis** *NUCLEAR INSTRUMENTS & METHODS IN PHYSICS RESEARCH SECTION B-BEAM INTERACTIONS WITH MATERIALS AND ATOMS*  
Sun, T., Liu, H., Liu, Z., Peng, S., Ma, Y., Sun, W., Luo, P., Ding, X.  
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- **Performance of polycapillary X-ray optics for confocal energy-dispersive small-angle X-ray scattering** *JOURNAL OF APPLIED CRYSTALLOGRAPHY*  
Sun, T., Peng, S., Liu, Z., Sun, W., Ma, Y., Ding, X.  
2013; 46: 1880-1883
- **Adjustment of confocal configuration for capillary X-ray optics with a liquid secondary target** *NUCLEAR INSTRUMENTS & METHODS IN PHYSICS RESEARCH SECTION A-ACCELERATORS SPECTROMETERS DETECTORS AND ASSOCIATED EQUIPMENT*  
Peng, S., Liu, Z., Sun, T., Ma, Y., Sun, W., Zhao, W., He, J., Zhao, G., Ding, X.  
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- **[Application of confocal micro-beam X-ray fluorescence in nondestructive scanning analysis of the distribution of elements in a single hair].** *Guang pu xue yu guang pu fen xi = Guang pu*  
Liu, H., Liu, Z., Sun, T., Peng, S., Zhao, W., Sun, W., Li, Y., Lin, X., Zhao, G., Luo, P., Ding, X.  
2013; 33 (11): 3147-50
- **Performances for confocal X-ray diffraction technology based on polycapillary slightly focusing X-ray optics** *NUCLEAR INSTRUMENTS & METHODS IN PHYSICS RESEARCH SECTION A-ACCELERATORS SPECTROMETERS DETECTORS AND ASSOCIATED EQUIPMENT*  
Liu, H., Liu, Z., Sun, T., Peng, S., Ma, Y., Sun, W., Li, Y., Lin, X., Zhao, W., Zhao, G., Luo, P., Pan, Q., Ding, et al  
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