

# Gravitationally Sensitive Structured X-Ray Optics Using Nuclear Resonances

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Einstein's general theory of relativity not only revolutionized our understanding of the universe but also led to numerous gravitational applications on a large scale, such as gravitational-wave astronomy. However, it is still a challenge to find a gravitational application at small spatial extensions on Earth. In this study, we investigate a structured waveguide system that enables the control of an X-ray profile at altitude separations of millimeters or even shorter, utilizing the nuclear resonant scattering of X-rays. Our current findings suggest a potential compact solution for using Earth's gravity as a practical application of X-ray optics [1].

## References

- [1] S-Y Lee, S Ahrens and W-T Liao, arXiv:2305.00613 (2023)