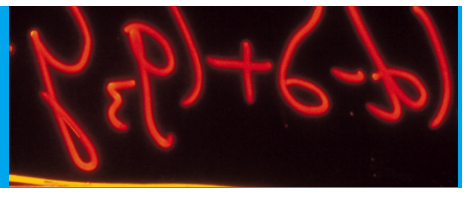
DESY and Universität Hamburg
Quantum Universe Colloquium

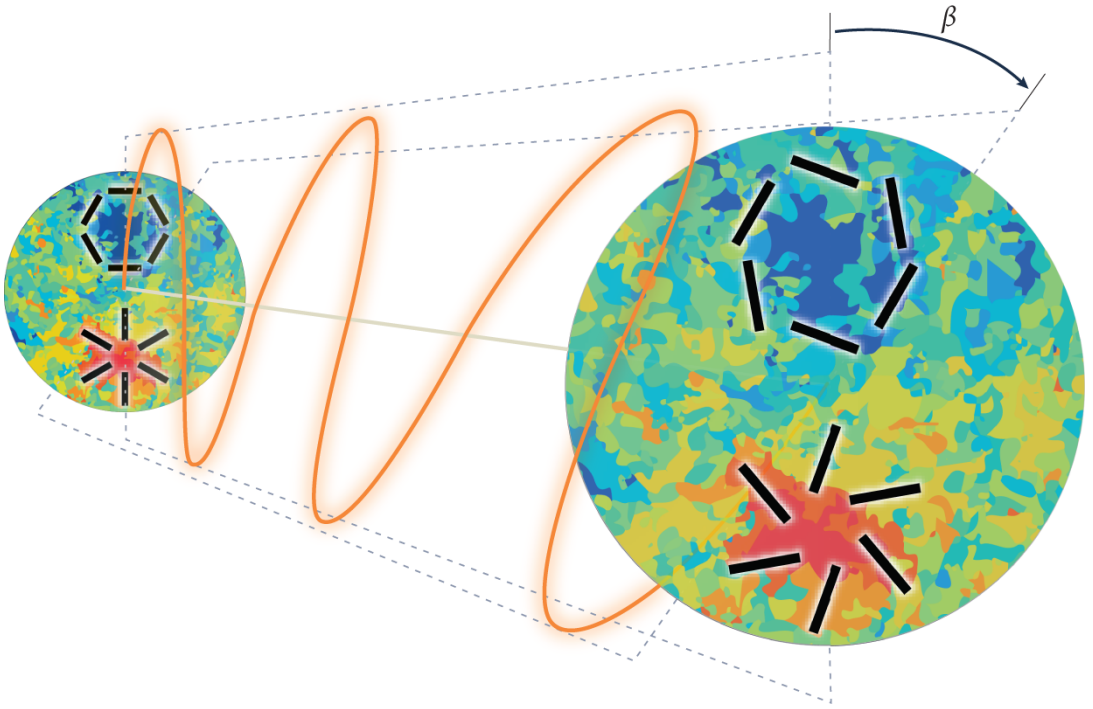


A tantalizing hint of cosmological parity violation in the polarized light of the cosmic microwave background.

Tuesday, 06 May, 2025
Auditorium & Webcast 16:00 h

Eiichiro Komatsu (MPI für Astrophysik, Munich)

The polarized light of the cosmic microwave background is sensitive to new physics that violates parity symmetry. In this presentation, we present a tantalizing hint of parity violation from the polarization data of two satellite missions, WMAP and Planck, with a statistical significance of 3 sigma. This signal has also been observed in recent data from the Atacama Cosmology Telescope. Taken together, there is evidence for a cosmological parity violation with a statistical significance of 4 sigma. If confirmed in the future with higher statistical significance, this finding would have profound implications for the elusive nature of dark matter and dark energy.



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Meeting ID: 996 1652 8733
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