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First experimental demonstration of fully structured light in an EUV FEL

Monday, 20 May 2024 16:00 (2 hours)

Light with polarization structure is called Fully Structured Light (FSL). We present an experimental demonstration of coherent FSL EUV light with spatially varying states of polarization generated at the FERMI free electron laser (FEL) in Trieste, Italy. Control of the polarization is obtained through the overlap of radiation emitted in orthogonally polarized helical undulators with different transverse phase distributions. The spatial polarization structure was mapped by imaging the light downstream of a polarizer, and two classes of FSL were observed and characterized: cylindrical vector and Poincare beams.

Footnotes

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LaTeX

Region represented

North America

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