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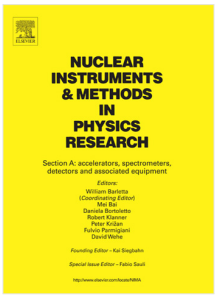

Advances in instrumentation for FEL-based four-wave-mixing experiments

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Research Highlights

1. Short-period transient gratings enables FEL-based non-collinear four-wave-mixing
2. Two instruments for this class of experiments are available at the FERMI FEL
3. Control on multiple variables may enable FEL-based multi-dimensional spectroscopy
4. Extreme ultraviolet and soft x-ray radiation permits probing nanoscale dynamics