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Brilliant XUV radiation from laser-illuminated near-critical plasmas[1] T G BLACKBURN, A A GONOSKOV, M MARKLUND, Chalmers University of Technology — Bursts of XUV radiation are generated by nanoscale oscillations of surface electrons in plasmas illuminated by intense, linearly-polarised laser light. For plasmas with near-critical electron density, these bursts are characterised by high conversion efficiency into harmonics of order 100 and brilliance comparable to that of a third-generation synchrotron light source. We present particle-in-cell simulations of the source that explore experimentally relevant parameters, and demonstrate that it could be realised in today's high-intensity laser facilities.

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