

Compact multi-pass spectral broadening schemes for XUV pulse generation

Anne-Lise Viotti,^{1,2,*} Marcus Seidel,² Gunnar Arisholm,³ Cord L. Arnold,¹ Chen Guo,¹ Ingmar Hartl,² Christoph M. Heyl,^{2,4,5} Anne L'Huillier,¹ Chen Li,² Ann-Kathrin Raab,¹ Ivan Sytceвич,¹ and Lutz Winkelmann,²

¹Department of Physics, Lund University, P.O. Box 118, SE-221 00 Lund, Sweden

²Deutsches Elektronen-Synchrotron DESY, Notkestr. 85, 22 607 Hamburg, Germany

³FFI (Norwegian Defence Research Establishment), P.O. Box 25, NO-2027 Kjeller, Norway

⁴Helmholtz-Institute Jena, Fröbelstieg 3, 07743 Jena, Germany

⁵GSI Helmholtzzentrum für Schwerionenforschung GmbH, Planckstrasse 1, 64291 Darmstadt, Germany

*anne-lise.viotti@fysik.lth.se

Abstract

This talk addresses the recent developments of the multi-pass cell approach for post-compression to the few-cycle regime. At Lund University and DESY, our current setups employ hybrid multi-pass multi-plates schemes to reach the sub-10 fs regime and drive high repetition rate attosecond XUV pulse generation in a compact manner. © 2023 The Author(s)