VIPO Symposium 2021

Physical-Optics Simulation for Ultrashort Pulses

Talk during VIPO Symposium 2021
Friday, 09 July 2021 | 09:20 - 09:40 (CEST)
Dominik Kühn, Christian Hellmann, Frank Wyrowski, Alexander Treffer,
Rüdiger Grunwald

With many modern applications requiring or benefitting from high-packaged energy delivered in a very short amount of time, ultrashort pulse sources acquire more and more interest. To focus on such kind of source, proper handling of the spatial and temporal distribution, as well as a possible coupling amongst the two domains is required. In this talk, we demonstrate simulation techniques based on fully vectorial physical optics to handle ultrashort pulse propagation through the air and various optical components such as lenses, gratings, and wedges and show in-depth effects like chirp compression or the pulse-front tilt for simultaneous spatial and temporal focusing setups.

D= 50 mm   D= 100 mm   D= 150 mm