

Physics and Applications of High Brightness Beams



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Applications of laser-driven anti-resonant waveguides to electron beams

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Large-core anti-resonant fibers have recently found key applications in non-linear optics. Here we report on their applications to charged beams. We show that large energy modulations can be applied via a TM₀₁-like mode, which can be further exploited to produce attosecond microbunches. We also report on the dipole HE₁₁-like mode, to support high-power streaking resolutions for diagnostics purposes. Limitations, opportunities, and future plans are also discussed.

Primary author: LEMERY, Francois (DESY)

Presenter: LEMERY, Francois (DESY)

Session Classification: Advanced concepts and Conclusions