Abstract Submitted
for the DPP19 Meeting of
The American Physical Society

Efficient petawatt beam redirection for GeV class laser plasma accelerated electron beams using thin film liquid crystal plasma mirrors[1]

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[1]This work is supported by the U.S. Department of Energy (DOE) under Contract Nos. DE-SC0018192 and DE-AC02- 05CH11231.
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Date submitted: 03 Jul 2019 Electronic form version 1.4