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Are Two Laser Pulses (With Half Energy) Better Than One for Ion Acceleration? NASHAD RAHMAN, BRENDEN MCHUGH, CHRIS ORBAN, Ohio State Univ - Columbus — Ultra intense lasers are a promising source of ions for various industrial and biomedical applications. An interesting paper is Ferri et. al. 2019 which argues from PIC Simulations that using two beams of half energy is more effective at accelerating ions than one beam at full energy. We explore this possibility with a wider range of laser intensities to better understand the physics that is at work in this phenomenon. In this way, we extend the parameter space that Ferri et. al. 2019 investigated. We explore this phenomenon with parameters which resemble the Scarlet Laser Facility at OSU and the Extreme Light Laser System at Wright-Patterson Air Force Base.

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