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Distribution of Free Electrons Ejected Out the Side a Laser Focus at Relativistic Intensities[1] CHRISTOPH SCHULZKE, JUSTIN PEATROSS, MICHAEL WARE, Brigham Young University — At laser intensities of 10^{18} W/cm^2, electrons are quickly ionized from atoms and oscillate relativistically. Strong field gradients within a tight laser focus propel these free electrons out the side of the focus. Malka et al. observed that electrons have a strong tendency to be ejected along the direction of the laser polarization. Quesnel and Mora argued that these results must be in error. They developed a theoretical model that contradicted Malka et al. Our theoretical analysis supports the results of Malka et al. and we are setting up an experiment to test these conclusions.

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