

Abstract Submitted  
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**Theoretical aspects of jitter radiation from Weibel turbulence in Hercules experiment**<sup>1</sup> SARAH REYNOLDS, SHRIHARSHA POTHAPRAGADA, MIKHAIL MEDVEDEV, University of Kansas — Weibel instability development and structure will be studied in Hercules experiment. A primary beam will induce current filamentation whereas the secondary beam is used to probe the generated magnetic field structure. In particular, jitter radiation, which will be emitted by the electrons of the secondary beam, can be used for accurate diagnostics. For this purpose, we further develop the theory of jitter radiation from small-scale magnetic fields generated by the Weibel instability and demonstrate that the spectra vary considerably with the viewing angle. Furthermore, we quantify how the low-energy photon index,  $\alpha$ , ranges changes with the apparent viewing angle for various models of magnetic field spatial distribution. We discuss astrophysical applications of this study.

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