

Abstract Submitted  
for the DPP15 Meeting of  
The American Physical Society

**Modeling electron-positron plasma production around supermassive BHs in AGNs**<sup>1</sup> ALEX FORD, BRETT KEENAN, MIKHAIL MEDVEDEV, Univ of Kansas — We develop a numerical code for modeling the electron-positron plasma production in magnetic fields around supermassive spinning black holes (BH) in order to explore its role in launching relativistic jets in active galactic nuclei (AGN). We demonstrate that plasma production is sensitive to the spectrum of the ambient photon field, e.g., from an accretion disc. Therefore, we use observed photon spectra to make realistic models of specific astrophysical systems, including the Galactic Center BH (Sagittarius A\*). We discuss the results and make observational predictions.

<sup>1</sup>Supported by grant DOE grant DE-FG02-07ER54940 and NSF grant AST-1209665.

Mikhail Medvedev  
Univ of Kansas

Date submitted: 24 Jul 2015

Electronic form version 1.4