Abstract Submitted for the DPP05 Meeting of The American Physical Society

On the Radiation Spectrum of Hot Quasi-Spherical Accretion Flow onto a Neutron Star<sup>1</sup> JUTHIKA KHARGHARIA, MIKHAIL MEDVEDEV, University of Kansas — We study the observational properties of a hot, geometrically thick, optically thin accretion flow onto an unmagnetized (and weakly magnetized) spinning neutron star. We numerically compute the photon emission spectrum, assuming the flow is steady-state and the dominant emission mechanism is free-free emission. The key parameters are the flow (and the star) rotational velocity,  $\Omega$ , the radial infall velocity v, as well as the electron temperature and density,  $T_e$  and  $n_e$ . The relativistic effects, important for rapidly rotating stars, are included. Various viewing angles with respect to the rotation axis are considered. We compare our results with available observational data.

<sup>1</sup>This work is supported by DoE grant DE-FG02-04ER54790 and NASA grant NNG-04GM41G.

Mikhail Medvedev University of Kansas

Date submitted: 22 Jul 2005

Electronic form version 1.4