



Contribution ID: 160

Type: **Poster**

Quasi-periodic oscillations of perturbed tori

Wednesday 16 December 2015 15:42 (3 minutes)

Our research focuses on axisymmetric hydrodynamical simulations. The models implemented are *thinner* tori and *thicker* torus in equilibrium around a non-rotating black hole. The tori were constructed with a constant distribution of angular momentum obtained from Kluzniak-Lee (a pseudo-Newtonian) potential. Epicyclic motion were triggered by adding sub-sonic velocity fields; radial, vertical and diagonal. As the perturbed tori evolved in time, we measured L_2 norm of density and obtained the power spectrum which manifested modes as predicted by theory. Results from our simulations are relevant in the context of high-frequency quasi-periodic oscillations (HF QPOs) observed in stellar-mass black hole binaries.

Collaboration

Varadarajan Parthasarathy, Wlodek Kluzniak, Antonios Manousakis

Author: Mr PARTHASARATHY, Varadarajan (N. Copernicus Astronomical Center)

Presenter: Mr PARTHASARATHY, Varadarajan (N. Copernicus Astronomical Center)

Session Classification: 16 - Black holes