

Boston University College of Arts & Sciences Center for Space Physics

2021—2022 SPACE PHYSICS SEMINAR SERIES

Asteroids falling into the Sun

The under-abundance of asteroids on orbits with small perihelion distances suggests that thermally-driven disruption may be an important process in the removal of rocky bodies in the solar system. Here I will discuss how the debris streams arise from possible thermally-driven disruptions in the near-Sun region based on simulations of the disruption of near-Sun asteroids, and how can we use meteor data to understand the asteroid disruptions near the Sun. I will show that there is a clear overabundance of Sun-approaching meteor showers, which is best explained by a combining effect of comet contamination and an extended disintegration phase that lasts up to a few thousand years. Finally, I will briefly discuss the recent search of near-Sun asteroids as well as the implication of our finding for the study of exoplanetary systems.

Thursday, March 24th

4:00-5:00 p.m. 725 Commonwealth Ave | Room 502 Quanzhi Ye University of Maryland and Boston University