

## Exploration of Trojan asteroids and observations of cosmic infrared background radiation by a solar power sail mission

Ryosuke Nakamura<sup>1\*</sup>, Hajime Yano<sup>2</sup>, Ryu Funase<sup>2</sup>, Osamu Mori<sup>2</sup>, Fumi Yoshida<sup>3</sup>, Eiichiro Kokubo<sup>3</sup>, Yuichi Tsuda<sup>3</sup>, Shuuji Matsuura<sup>2</sup>, Naruhisa Takato<sup>3</sup>, Yasuhito Sekine<sup>4</sup>, Shogo Tachibana<sup>5</sup>

<sup>1</sup>AIST, <sup>2</sup>JAXA, <sup>3</sup>NAOJ, <sup>4</sup>University of Tokyo, <sup>5</sup>Hokkaido University

In this presentation, we propose a solar power sail mission bound for Jupiter Trojan asteroids. The unique location of Jupiter Trojan asteroids enables us to examine compositional divergence of the protoplanetary disk and possible migration of outer planets. We will make in-situ flux measurements of interplanetary dust particles and observations of diffuse sky brightness during the cruising phase. The resulting elaborated dust model plays a critical role to study the first generation of stars and circumstellar debris disks.

Keywords: Asteroid, Lagrange point, Solar Sail, infrared, sample return