

平成 20 年 1 月 15 日

応用物理学会北海道支部
会員各位

応用物理学会北海道支部

講演会のお知らせ

下記講演会を開催いたしますので、多数ご参加下さいますようご案内申し上げます。

演題：Using Nulling Interferometry to Detect Faint Emission near Bright Stars

講師：Eugene Serabyn 氏

(Jet Propulsion Laboratory, California Institute of Technology)

日時：平成 20 年 1 月 25 日 (金) 13:30 ~ 14:30

場所：北海道大学工学部物理工学系会議室 I (A3-62)

主催：応用物理学会北海道支部

講演の要旨

Detection of faint emission from faint brown dwarfs, exo-planets and exozodiacal dust very close to bright stars requires very high-contrast, high-resolution observational techniques. One promising approach is nulling interferometry, which can be used to cancel the stellar signal collected by multiple telescope apertures or subapertures, while transmitting the light from off-axis emission sources. Over the past decade, nulling has moved from the concept phase to implementation on several telescopes, including at the Keck Observatory, where on-sky stellar rejections of order 100:1 are now regularly achieved. Shared-risk observations have been underway for the past couple of years at Keck, while the performance has been improving, and in Feb. 2008, NASA's exozodiacal dust key-science project on the Keck Interferometer Nuller is slated to begin. The goal of this program is to search for faint dust within about 1 Astronomical Unit of nearby stars, i.e., in their habitable zones, in order to begin to determine if dust will pose a hindrance to future direct observations of exoplanets. This talk will cover the basics of nulling interferometry, and then move on to the results achieved in the laboratory at JPL, and conclude with a description of the nulling interferometers implemented at the Keck and Palomar Observatories.

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