

ASTRONOMY & ASTROPHYSICS SEMINAR

Speaker : Dr. Amitai Bin-Nun  
University of Pennsylvania

Title: *Gravitational Lensing by Compact Objects in the Galactic Center:  
Can we exclude or detect a boson star?*

Date & Time : *March 17, 2011 (Thursday) at 10.30 hrs*

Venue: *Lecture Theatre (AG-66) [ Video-Seminar]*

*Over the last few decades, it has been increasingly clear that there is an extremely compact object at Sgr A\* in the center of the galaxy. Some have looked at the theoretical gravitational lensing properties of this object, particularly on stars orbiting the galactic center. In this talk, I explore the possibility that a "boson star" or compact collection of scalar particles, is responsible for the large mass at Sgr A\*. This possibility cannot be ruled out by observation of dynamical processes because of the compactness of a boson star. However, I argue that the gravitational lensing properties of a boson star have unique properties and their presence or absence would be strong evidence for or against a boson star in the galactic center.*