

Abstract Submitted  
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**Can Lensing Constrain a Boson Star in the Galactic Center** AMI-TAI BIN-NUN, Yeshiva University — 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 very strong evidence for or against a boson star in the galactic center.

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