

Talk at Splinter Meeting

Splinter L

NEAR INFRARED VARIABILITY OF SGR A\* USING KECK AO AND  
THE WARM SPITZER SPACE TELESCOPE

Eric Becklin<sup>1</sup>, Gunther Witzel<sup>1</sup>, Mark Morris<sup>1</sup>,  
Andrea Ghez<sup>1</sup>, Giovanni Fazio et al.<sup>2</sup>

<sup>1</sup>*Dept. of Physics and Astronomy, UCLA*

<sup>2</sup>*CFA*

The UCLA Galactic Center group has carried out simultaneous observations of Sgr A\* variability at 1.6 and 3.8 microns using the two 10 meter Keck telescopes and laser guide star adaptive optics (AO). The results from 4 nights in 2012 will be shown and discussed. With about 30 seconds sampling, the light curves show very similar behavior. At a level greater than 3 sigma the 3.8 micron radiation lags the 1.6 micron radiation by about 1 to 3 minutes of time. Possible models for this lag will be discussed. In a separate experiment using the Spitzer Space Telescope at 4.5 microns in 2013 and 2014, clear variations of Sgr A\* are seen over four 24 hour periods. Some overlap with submillimeter and x-ray observations are observed and will be discussed. The implication for the effect of the dust cloud in G2 at closest approach to Sgr A\* will also be mentioned.