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### **Flaring Activity of the Massive Black Hole at the Center of the Galaxy<sup>1</sup>**

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It is becoming increasingly clear that an underluminous supermassive black hole (Sgr A\*) lies at the center of the Galaxy. Sgr A\* exhibits quiescent synchrotron emission from an accretion flow at radio and submillimeter wavelengths. Sgr A\* is also known to be variable in radio, millimeter, IR and X-rays. Infrared flares appear to occur a few times a day, with a small fraction showing simultaneous flaring in X-rays. The flaring activity is thought to be arising from the inner ten Schwarzschild radii of a 4 million solar mass black hole coincident with Sgr A\*. I will present highlights of recent multi-wavelength measurements to study the flaring activity of the black hole. The correlation of the variable emission in multiple wavelengths shows time delay in the peaks of flare emission. In addition, there is evidence for dimming of submillimeter and radio emission during the peak of IR flare emission. These measurements are interpreted in terms of an expanding blob of synchrotron emitting hot plasma, partially eclipsing the background quiescent emission from Sgr A\*. I will also discuss the origin of X-ray flare emission in the context of inverse Compton scattering of IR flare emission. These measurements are providing us with insights on the nature of the magnetized flow very near the event horizon of a supermassive black hole.

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