## Space Science Seminar Tuesday, 2023 April 4 10:30 a.m. NASA/MSFC TEAMS and NSSTC 2096

Kinematic Constraints on Supermassive Black Holes in the Local Group and Beyond Dr. María José Bustamante / University of California, Santa Cruz

Host: Dr. Tyson Littenberg (Sponsored by ST12)

Supermassive black holes exert an enormous influence on the spacetime surrounding them, either in a stationary (through their gravitational potential) or non-stationary way (through gravitational radiation). The nearby stars will be influenced by the shape of the potential, and distant ones also by any gravitational radiation. In this talk, I will talk about using the orbits of stars near SgrA\* to infer the granularity of its potential, about the detection of a supermassive black hole in the milky way satellite Leo I (and current efforts to confirm the detection by its expected accretion) and finally, about the usage of gravitational waves from nearby binary white dwarfs to detect gravitational waves from supermassive black hole binaries far away.

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