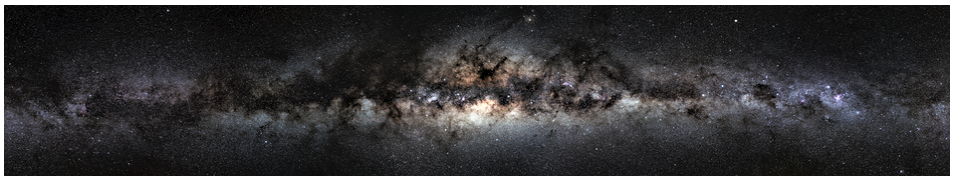

Contribution ID: **71** Type: **Oral**

Search for Black Holes in the Galactic Halo by Gravitational Microlensing

Thursday, 9 December 2021 12:32 (18 minutes)

Gravitational microlensing constrains the abundance of massive compact objects in the Galactic halo. Historical studies (MACHO, EROS, OGLE, MOA) have excluded objects lighter than 10 solar masses as a major component of Galactic dark matter. The detection of coalescences of heavier black holes by LIGO/Virgo has rekindled interest in dark matter as compact objects. The effectiveness of previous microlensing studies was limited for high lensing masses, due to the long duration of the expected events. The combination of the historical EROS and MACHO databases, which cover distinct periods, allows us to obtain light curves with a duration exceeding 10 years duration. As a result, the microlensing search sensitivity could be extended to mass lenses up to several hundred solar masses. I will present and discuss the results of this combination of the MACHO and EROS surveys.

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