



Contribution ID: 153

Type: **Oral**

Connections to Compact Dark Matter

Tuesday, 8 August 2017 11:30 (30 minutes)

The elusive nature of dark matter calls for new ideas. An old but largely overlooked possibility is compact dark matter—perhaps primordial black holes—with masses comparable to the masses of stars. Null microlensing searches rule out fairly robustly masses below ten solar masses. Constraints to higher masses are, however, a bit trickier but have been the subject of considerable recent study. I will review the motivation for this exploration, current constraints (and their uncertainties), and some possible future probes. The work discussed makes connections with gravitational-wave astrophysics, high-energy astrophysics, stellar dynamics, the cosmic microwave background, and cosmology at much earlier and much later times.

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Session Classification: Plenary session