Welcome!

Note that this Special Session has an updated format, all talks will be given in sequence, and the discussion session follows as a block at the end.

This Session has been designed to follow a specific flow and arc of topics, and has involved much coordination and discussion with all Session Conveners and speakers. Come to the entire session if possible!

We have a github repository for relevant information, including the presentations and supporting material here:

https://github.com/lmoustakas/specialdark

We have also set up a google doc for notes, recording questions, etc during the session itself. Anyone can edit this:

http://tinyurl.com/AASspecialdark

Astrophysical Constraints of Dark Matter Properties

A Special Session at the 227th American Astronomical Society meeting

View the Project on GitHub lmoustakas/specialdark

Download ZIP File	Download TAR Ball	View On GitHub

Special Session on the Astrophysical Constraints of Dark Matter Properties

Thursday, January 7, 2016, 2:00pm - 3:30pm

What is dark matter, and how can astronomical observations give insights or measurements of its detailed particle properties? How do we coordinate work across vast astronomical approaches? How best can astronomers and particle physicists share ideas and advances? Come to this session to learn new ideas on this front, and to contribute to the discussion!

The rationale for this Special Session is made in the original proposal submitted to the AAS, available here.

Organizers and conveners

Tom Abel (Stanford) & Alex Drlica-Wagner (FNAL) & Justin Read (Surrey) & Alyson Brooks (Rutgers) & Jennifer Gaskins (Amsterdam) & Josh Simon (OCIW) & Matthew Buckley (Rutgers) & Manoj Kaplinghat (UCI) & Rachel Somerville (Rutgers) & James Bullock (UCI) & Charles Keeton (Rutgers) & Erik Tollerud (STScI) & Michelle Collins (Surrey) & Stacy Kim (OSU) & Tommaso Treu (UCLA) & Francis-Yan Cyr-Racine (Harvard) & Leonidas Moustakas (JPL/Caltech) & Risa Wechsler (Stanford) & William Dawson (LLNL) & Annika Peter (OSU)

Schedule of main session

Time	Speaker	Title
2:00-2:10	L Moustakas	Astrophysical Constraints of Dark Matter Properties
2:10-2:20	W Dawson	Astronomical Insights into dark Matter Particle Constraints
2:20-2:30	M Buckley	Present View of Experimental Dark Matter Particle Properties
2:30-2:40	A Peter	The Future of Astronomical Dark Matter Probes
2:40-2:50	J Gaskins	Astronomical Metrics for Characterizing Dark Matter
2:50-3:00	E Tollerud	Future Observations and Simulations for Dark Matter
3:00-3:10	M Collins	A Plan for Astrophysical Constraints of Dark Matter Properties
3:10-3:30	J Gaskins and A Peter	Moderated Discussion and Conclusions

Special Session Posters

Poster session #337 in Exhibit Hall A is associated with this event, and can be viewed the entire day, with a focus at 5:30-6:30pm.

Author	Title
Alex Drlica-Wagner	Searching for Dwarf Spheroidal Galaxies with DES
Matthew	Search for Gamma-ray Emission from Dark Matter Annihilation in the

Buckley	Magellanic Clouds with the Fermi Large Area Telescope
Stacy Kim	Constraining Self-Interacting Dark Matter: Insights from Equal Mass Mergers of Galaxy Clusters
Michelle Collins	The dark matter content of Local Group dwarf spheroidals
Andrew Pace	Diversity of Galactic Rotation Curves and Self-interacting Dark Matter
Leonidas Moustakas	The Aspen Framework for Dark Matter Substructure Inference from Strong Gravitational Lensing Observations
Alyson Brooks	Assessing Astrophysical Uncertainties in Direct Detection Experiments Using Galaxy Simulations
Tansu Daylan	Inference of Dim Gamma-Ray Point Sources Using Probabilistic Catalogues