

Virgo Meeting 2022

Big projects [20+5] / [25+5]

Science talks [10+5]

Coffee/lunch breaks

Discussions

Activities

Monday 11/07

13:45 - 14:00 Welcome & introduction [Carlos/Volker/Joop]

- Brief history
- Future of collaboration
- Future of meetings

[Session chair: Dylan Nelson]

14:00-14:30 FLAMINGO

14:30-15:00 COLIBRE

15:00-15:25 Updates on SWIFT [Schaller]

15:25-16:00 Coffee break

16:00-16:25 The MilleniumTNG project [Springel]

16:25-16:50 Zoom simulations of galaxy clusters with Arepo [Berlok]

16:50-17:30 PhD/Postdoc one slide talks

17:30-18:30 Afternoon for chats

<https://zoom.us/j/6153166930?pwd=aVBIYzA2SmJiWkF2N05JU0planU4QT09>

Meeting ID: 615 316 6930

Passcode: 441043

Tuesday 12/07

[Session chair: Sylvia Ploeckinger]

9:30-9:45 "Initial Conditions in the Precision Era" [Hahn]

9:45-10:00 "MEGA: Merger Graphs of Structure Formation" [Roper]

10:00-10:15 "Thermal plus kinetic supernova feedback for cosmological simulations including a cold ISM" [Chaikin]

10:15-10:30 "SWIFT radiative transfer in just two moments" [Chan]

10:30-11:00 **Coffee break**

[Session chair: Camila Correa]

11:00-11:15 "The effect of cosmic rays and magnetic fields on the formation of dwarf galaxies" [van de Voort]

11:15-11:30 "Simulations of small-scale CGM structure and their observable signatures" [Nelson]

11:30-11:45 "The interplay between AGN feedback and precipitation of the intracluster medium in simulations of galaxy groups and clusters" [Nobels]

11:45-12:00 "Active galactic nuclei jets in smoothed particle hydrodynamics simulations" [Husko]

12:00-12:15 "How do simulated clusters form large entropy cores?" [Altamura]

12:15-12:30 "Cloud-wind interactions" [Braspenning]

12:30-14:00 **Lunch**

[Session chair: Ruediger Pakmor]

14:00-14:15 "Shearing box approximation and magnetorotational instability with a moving mesh" [Zier]

14:15-14:30 "Hydromagnetic waves in an expanding universe – cosmological MHD code tests using analytic solutions" [Berlok]

14:30-14:45 "The Impact of Magnetic Fields on Cosmological Galaxy Mergers" [Whittingham]

14:45-15:00 "Mergers can initiate quenching by driving a transformation of the baryon cycle" [Davies]

15:00-15:15 "Gaseous versus dark matter distributions and dynamics in hydrodynamical simulations" [Ayromlou]

15:15-15:45 **Coffee break**

15:45-16:45 **Discussions: ICs (Jenkins, Hahn) || Star formation (Schaye, Naab) || Other topics tba**

16:45-17:00 **Coffee break**

17:00-18:00 **Discussions: Survey Mocks/SA models (Vijayan, C Lovell) || Feedback (Nelson, Kay) || Other topics tba**

18:00 - 18:30 **Free time**

Wednesday 13/07

[Session chair: Chervin Laporte]

09:30-9:55 **SIBELIUS + “The Milky Way's plane of satellites - a typical LCDM system” [Sawala]**

9:55-10:20 **“Large simulations of cosmic structure formation with fuzzy dark matter” [May]**

10:20-10:45 **“Is Self-Interacting Dark Matter able to solve the small-scale problems in the Local Universe?” [Correa]**

10:45-11:10 **Coffee break**

[Session chair: Anna Genina]

11:10-11:25 **“Structure and kinematics of tidally limited satellite galaxies in LCDM” [Errani]**

11:25-11:40 **“The Milky Way satellite system from a CDM, WDM & SIDM perspective” [Forouhar]**

11:40-11:55 **“The diversity of rotation curves of simulated galaxies with cusps and cores” [Oman]**

11:55-12:10 **“Satellites of dwarfs in LCDM: the LMC and the faint end of the stellar mass-halo mass relation” [Santos-Santos]**

12:10-12:25 **“Exploring the diversity of sausages and their satellite populations in Auriga” [Orkney]**

12:25-12:40 **“Velocity dipoles in the halos of simulated galaxies” [Riley]**

12:40-14:00 **Lunch**

[Session chair: Francesca Fragkoudi]

14:00-14:25 **LYRA [Gutcke]**

14:25-14:40 **“Unveiling the formation and destruction mechanisms of star clusters in solar mass resolution simulations of dwarf galaxies” [Hislop]**

14:40-14:55 **“Growth of Massive Black Holes in Compact Star Clusters” [Rizzuto]**

14:55-15:10 **“The effects of AGN feedback on the bars and bulges of Milky Way-mass galaxies in cosmological simulations” [Irodotou]**

15:10-15:30 **Coffee break / regroup for discussion**

15:30 - 16:00 **“Virgo: a short story” [Lovell] @ ESO Supernova Planetarium**

16:00-17:00 **Discussions: ADM (Correa, Lovell, May) || Cosmic Rays + Magnetic Fields (Pfrommer, Springel) || Other topics tba**

17:00-17:20 **Coffee break**

17:20-18:20 **Discussions: Data Analysis and Data Management (Borrow, Oman) || Simulating Ultra-faints (Fattahi, Gutcke) || Other topics tba**

19:00 - 21:30 **Dinner @ Gasthof Neuwirt**

21:30 - 22:00 **“A VERY brief history of CDM and Virgo” [Frenk] @ Gasthof Neuwirt**

Thursday 14/07

[Session chair: Sownak Bose]

9:30-9:45 “Large-scale structure and the local neutrino abundance”

[Elbers]

9:45-10:00 “The halo bispectrum as a sensitive probe of massive neutrinos and baryon physics” [Yankelevich]

10:00-10:15 “Cosmology with multiple halo sparsities” [Le Brun]

10:15-10:30 “What can N-body simulations do for large-scale-structure cosmology?” [Angulo]

10:30-10:45 “Welcome Back to the IGM: Identifying Backsplash Galaxies in TNG-300” [Borrow]

10:45-11:00 “Unveiling filamentary streams connected to galaxies at $z=2$ in the TNG50 simulation” [Galarraga-Espinosa]

11:00-11:30 **Coffee break**

[Session chair: Giulia Despali]

11:30 2min-talk [Suhani Gupta]

11:30-11:45 “The Edge of the Galaxy” [Genina]

11:45-12:00 “The splashback radius in hydrodynamical simulations” [Towler]

12:00-12:15 “Close to the edge: tracing the evolution of massive galaxy clusters ” [Vega-Martínez]

12:15-12:30 “How to interpret measurements of diffuse light in stacked observations of groups and clusters of galaxies” [Ahad]

12:30-12:45 “Origin of lopsided galaxies” [Gomez]

12:45-13:00 **Goodbye and coffee**