Contribution ID: **21**                                                          Type: **not specified**

# Distruption of star clusters in galactic potentials in Newtonian and MOND gravities: stochastic N-body simulations

*Thursday, 23 November 2023 11:25 (25 minutes)*

Numerical and analytical evidences that collisionless and collisional relaxation processes work differently in Newtonian and modified Newtonian dynamics (MOND) theories of gravitation imply that processes such as the disruption of satellites falling onto the parent galaxy should, in principle, behave differently in the two scenarios. In particular, it is not clear whether a stronger (barionic) dynamical friction in MOND systems could compensate or not the absence of the contribution of dark matter with respect to the parent (equivalent) Newtonian system.

Aiming at shedding some light on this issue, here we present some preliminary simulations with a hybrid stochastic-N-body method where the the internal dynamics of the stellar cluster is solved with a standard direct N-body scheme, while the effect of host galaxy is modelled, in both Newtonian and MOND gravities, with a smooth potential plus noise and dynamical friction (accounting for the discreteness effects) implemented via a Langevin-like method.

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**Session Classification:**   Cluster Survival

**Track Classification:**   Session 5