

## CMM PDE Seminar

**Speaker:** Renato Velozo (Sorbonne Université, Francia).

**Título:** Linear and non-linear stability of collisionless many-particle systems on black hole exteriors.

**Abstract:** I will present upcoming linear and non-linear stability results concerning the asymptotic behavior of collisionless many-particle systems on black hole exteriors. On the one hand, I will discuss decay properties for solutions to the massive Vlasov equation on Schwarzschild spacetime. On the other hand, I will discuss an asymptotic stability result for the exterior of Schwarzschild as a solution to the Einstein–massless Vlasov system, assuming spherical symmetry. I will explain the use of hyperbolic dynamics to obtain decay in time of the energy momentum tensor by considering a Vlasov equation with a trapping potential.

**April 10, 2023 at 12 Santiago time**

To be held in person at Sala de seminarios DIM, 5th floor, Beauchef 851, and online via zoom:

El link para conectarse por zoom:

<https://uchile.zoom.us/j/97582024111?pwd=VXZ3R3N2QjBtU256d3FsSlRaFdDdz09>

For further information, see our webpage: <https://eventos.cmm.uchile.cl/pdeseminar/>

