

Spanish and Portuguese Relativity Meeting



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Modeling Relativistic Stars within Einstein-Vlasov-Boltzmann Theory

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Relativistic stars are typically modelled as ideal fluids, which in spherical symmetry leads to the Tolman-Oppenheimer-Volkoff (TOV) solutions. In this talk I discuss the construction of solutions for spherical, relativistic stars within full kinetic theory. In this case matter is described by the Vlasov-Boltzmann equation, which allows for a more realistic description of stars that is valid beyond the hydrodynamic limit. I discuss the new physical effects occurring in this model and compare with the TOV solutions.

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