SEMINARIO
Departamentos de Física Teórica I y II
Universidad Complutense de Madrid

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TITULO: **Coulomb glass: a spin glass in disguise?**

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ABSTRACT

Coulomb glasses are disordered system of localized electrons, interacting via the long-range Coulomb interaction.
Examples are found in doped semiconductors, amorphous semiconductors, and
granular metals at low temperature. Experiments on many of these systems display very slow relaxation and aging phenomena,
and a recent mean-field theory suggests
the existence of a low temperature phase, similar in many respects to a spin glass phase. In this talk, I will review our recent work (mostly numerical) on the Coulomb glass, highlighting similarities and differences with spin glasses. In particular, I plan to discuss
the search for an equilibrium glass phase, the shape of the "Coulomb gap" in the density of states, and the statistics of nonequilibrium avalanches that follow a small perturbation of the system.