

SEMINARIO DEL DEPARTAMENTO DE FÍSICA TEÓRICA

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Lepton Flavor Violation at Hadron Colliders

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Abstract: Flavor changing neutral currents are predicted to occur at tree level in numerous extensions of the standard model. None have yet been observed (in the quark or the lepton sector). In many such extensions, the heavier fermions will have larger FCNC. This talk will focus on two separate papers which discuss neutral current transitions between the muon and the tau. In one paper, production of mu-tau (and nothing else) is considered at the Tevatron and the LHC (and the Tevatron does much better until at least 2016). In the other, we find spectacular signatures, including tetralepton, pentalepton and hexalepton events at the LHC with no jets, and the multileptons are not paired up (3 mu-minuses and 2 positrons, for example). The cross section for these events can be hundreds of femtobarns, making discovery in that case imminent.