

*A discrete fractional approach for modelling dissipative mechanical systems*

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This talk is about the modelling of dissipative systems using fractional derivatives and also about some particular integrators obtained from their discretisation. We put our emphasis in obtaining numerical integrators via the discretisation of a restricted variational principle that provides the dynamical equations of dissipative mechanical systems with linear damping. We shall display their numerical behaviour and show their superior performance when approximating the dynamics and the energy decreasing of these systems.