Lie group integrator's approach to the N-fold pendulum by **Davide Murari**

Abstract
Lie group integrators have been proven to be effective in many applications, where the preservation of geometrical properties is of interest. In the talk, this approach to the mechanical system of the N-fold 3D pendulum is proposed. We introduce the main points in the intrinsic derivation of the system on a manifold and present a transitive group action which allows us to reframe it into the Lie group integrators setting. This problem can be considered a toy model to understand how to workout more intricate multi-body systems.