

Measure sweeping processes

Abstract : J.J. Moreau introduced in the 70' the so-called Sweeping Process. It describes the evolution of a point in a Hilbert space subject to remain in a moving convex set, while moving as little as possible : it does not move as far as it lies in the interior of the set, and it is otherwise caught up by the boundary. We propose an extension to this notion for infinitely many "particles", that are described by a measure supported in the moving set. We will show that the Wasserstein framework, based on Optimal Transportation, is natively adapted to this situation, and allows various generalizations (diffusing particles, constraint on the maximal density, ...) This is a joint work with S. Di Marino and F. Santambrogio.

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