State-dependent prox-regular sweeping processes

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We show that sweeping processes with possibly non-convex prox-regular constraints generate a strongly continuous input-output mapping in the space of absolutely continuous functions. Under additional smoothness assumptions on the constraint we prove the local Lipschitz continuity of the input-output mapping. Using the Banach contraction principle, we subsequently prove that also the solution mapping associated with the state-dependent problem is locally Lipschitz continuous.

[1] P. Krejčí, G. A. Monteiro, V. Recupero: Explicit and implicit non-convex sweeping processes in the space of absolutely continuous functions. To appear in "Applied Mathematics and Optimization".