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Patrizia Daniele* (daniele@dmi.unict.it), Viale A. Doria, 6, 95125 Catania, Italy, and **Sofia Giuffre'** and **Antonino Maugeri**. *INFINITE DIMENSIONAL DUALITY AND APPLICATIONS TO EQUILIBRIUM PROBLEMS*. Preliminary report.

We present an infinite dimensional duality theory for optimization problems and evolutionary variational inequalities where the constraint sets are given by inequalities, namely $g(x) \in -C$, with C ordering cone, and also by equalities, namely $h(x) = \theta_Z$. We ensure the strong duality between such convex optimization problem and its Lagrange dual without assumptions on the interior of the ordering cone and apply our results to a wide class of dynamic equilibrium problems. (Received September 17, 2008)