Workshop on Singularities, Hamiltonian and gradient flows
Atelier sur les singularités, flots hamiltoniens et gradients
12–16 May/*Mai*, 2008

Large dimensional nearly-integrable Hamiltonian systems exhibiting Arnold diffusion

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Abstract

We start by presenting a simple mechanism of Arnold diffusion, which follows ideas of Bessi and Mather. Then relying on this mechanism we show several classes of examples of Hamiltonian systems where this mechanism applies. These classes include nearest neighbor couples pendulums, couples oscillators, and others.