



Global isochronous Hamiltonian centers

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(Submitted on 1 May 2012 (v1), last revised 18 Oct 2012 (this version, v5))

We present a geometric characterization of the nonlinear smooth functions $V: \mathbb{R} \rightarrow \mathbb{R}$ for which the origin is a global isochronous center for the scalar equation $\ddot{x} = -V'(x)$. We revisit Stillingner and Dorignac isochronous potentials V and show a new simple explicit family. Implicit examples are easily produced.

Subjects: **Dynamical Systems (math.DS)**; Exactly Solvable and Integrable Systems (nlin.SI)

MSC classes: 37J45 (Primary) 34C25 (Secondary)

Cite as: **arXiv:1205.0204 [math.DS]**
(or **arXiv:1205.0204v5 [math.DS]** for this version)

Submission history

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[\[v1\]](#) Tue, 1 May 2012 16:13:53 GMT (8kb,D)

[\[v2\]](#) Wed, 2 May 2012 11:39:37 GMT (9kb,D)

[\[v3\]](#) Mon, 7 May 2012 14:25:21 GMT (8kb,D)

[\[v4\]](#) Sat, 13 Oct 2012 08:29:04 GMT (25kb)

[\[v5\]](#) Thu, 18 Oct 2012 15:18:40 GMT (25kb)

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