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Mark Levi* (levi@math.psu.edu), Mark Levi, Mathematics Department, Penn State, University Park, PA 16802, and **Vadim Kaloshin**. *A simple example of Arnold diffusion*. Preliminary report.

We give a simple example of Arnold diffusion. To interpret our result in terms of geometrical optics, we give an example of a periodic optical medium in \mathbf{R}^3 , with the index of refraction arbitrarily close to constant, for which some rays turn by an arbitrary amount over a sufficiently large length.

This is joint work with Vadim Kaloshin. (Received August 30, 2006)