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Richard Keith Hind* (hind.1@nd.edu), Department of Mathematics, University of Notre Dame, Notre Dame, IN 46556. *Symplectic embeddings in Euclidean spaces.*

Symplectic embeddings, and in particular Hamiltonian diffeomorphisms, preserve the volume of subsets of Euclidean space. But Gromov's nonsqueezing theorem shows that volume is not the only obstruction to embedding one domain into another. We will discuss how to improve Gromov's estimate for the radius of balls which can be embedded in certain domains in \mathbb{R}^4 . We will also talk about a generalization to higher dimensions which leads to a notion of higher order symplectic capacities. (Received February 20, 2006)