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Joel W. Fish* (joel.fish@umb.edu), 20 Crosby Road, Newton, MA 02467, and **Helmut Hofer**.

Feral pseudoholomorphic curves and minimal subsets. Preliminary report.

I will discuss some current joint work with Helmut Hofer, in which we define and establish properties of a new class of pseudoholomorphic curves (feral J-curves) to study certain divergence free flows in dimension three. In particular, we show that if H is a smooth, proper, Hamiltonian in \mathbb{R}^4 , then no energy level of H is minimal. That is, the flow of the associated Hamiltonian vector field has a trajectory which is not dense. (Received July 28, 2017)