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Anna L Mazzucato* (alm24@psu.edu) and **Nikolai Chemetov**. *A sharp embedding result arising from a fluid-structure interaction problem*. Preliminary report.

We prove a sharp Sobolev-type embedding for functions with integrable deformation on rough sets, if the trace on the boundary, defined in the sense of geometric measure theory, is also integrable. The question of the validity of such an embedding arises naturally in studying the motion of rigid bodies in a viscous fluid, when collisions are present. (Received January 08, 2019)