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Brian Benson* (babenson@ksu.edu), **Ivan Blank** and **Jeremy LeCrone**. *Mean Value Theorems for the Laplace-Beltrami Operator*. Preliminary report.

We have proven a mean value theorem for the Laplace-Beltrami operator. In this talk, we will discuss how this mean value theorem relates to those previously established in the literature. Further, we will discuss our developments of some of the introductory theory of the obstacle (free boundary) problem on Riemannian manifolds which we used to prove our result. (Received February 07, 2017)