1011-53-220 **Daniel Fox*** (dfox@math.uci.edu), 103 Multipurpose Science & Technology Bldg, University of California, Irvine, Irvine, CA 92697-3875. *An Integrable Reduction in Coassociative Geometry.* Preliminary report.

Calibrated submanifolds constitute special classes of minimal submanifolds. Some of the most interesting types of calibrated submanifolds arise inside of manifolds with special holonomy. Integrable systems have been found lurking inside of these special calibrated geometries. Beginning with the work of Haskins and Joyce on special Lagrangian geometry, techniques from integrable systems have been applied to the study of calibrated geometries.

There are two types of calibrated geometries that arise in 7-manifolds whose holonomy is contained in G_2- the associative and the coassociative geometries. Bryant and Kong, Terng and Wang have shown how certain integrable systems appear in the study of associative cones. I will describe how these same integrable systems also appear in the study of coassociative cones. (Received August 28, 2005)