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E Cabral Balreira* (ebalreir@trinity.edu), One Trinity Place, Department of Mathematics,
San Antonio, TX 78212. *A Generalization of the Fujisawa-Kuh Global Inversion Theorem.*

We discuss the global invertibility of nonlinear maps defined on the finite dimensional Euclidean space. Using differential tests of ratio conditions on the Jacobian matrix of the map, we provide a generalization of the Fujisawa-Kuh Global Inversion Theorem. We also introduce a generalized ratio condition to establish when the pre-image of a certain class of linear manifolds is non-empty and connected. In particular, we provide conditions to detect global injectivity. (Received July 26, 2010)