1126-42-210 **J. Alejandro Chávez-Domínguez***, jachavezd@math.ou.edu, and **Daniel Freeman** and **Keri Kornelson**. *Finite unit norm tight frames for Banach spaces via a frame potential.* Preliminary report.

A well-known theorem of Benedetto and Fickus states that a sequence of k norm-one vectors in an n-dimensional Hilbert space (where $k \geq n$) has frame potential at least k^2/n, with equality if and only if the sequence is a tight frame.

The main result of this paper is a generalization of the aforementioned result to the context of finite-dimensional (smooth) Banach spaces. We define a frame potential for a sequence of k norm-one vectors in an n-dimensional Banach space (where $k \geq n$), which is a generalization of the Hilbert-space case. This generalized potential is also bounded below by k^2/n, with the equality case characterizing tight frames. (Received January 13, 2017)