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Tim Ferguson* (tjferg@umich.edu), Department of Mathematics, 2074 East Hall, 530 Church Street, Ann Arbor, MI 48109. *Continuity of Extremal Elements in Uniformly Convex Spaces and Ryabykh's Theorem.*

We study the problem of finding the extremal element for a linear functional over a uniformly convex Banach space. We discuss our results showing that a unique extremal element exists and depends continuously on the linear functional, and vice-versa. Using these results, we discuss how to simplify and clarify Ryabykh's proof that for any linear functional on a uniformly convex Bergman space with kernel in a certain Hardy space, the extremal functional belongs to the corresponding Hardy space. (Received September 13, 2008)