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Yun Sung Choi* (mathchoi@postech.ac.kr), Department of Mathematics, Pohang University of Science and Technology, Pohang, Kyungpook, South Korea, and Han Ju Lee and Hyun Gwi Song. Denseness of norm-attaining mappings on Banach spaces.

Let X and Y be Banach spaces. Let $P({}^{n}X : Y)$ be the space of all Y-valued continuous n-homogeneous polynomials on X. We show that the set of all the norm-attaining elements is dense in $P({}^{n}X : Y)$ when a set of u.s.e. points of the unit ball B_X is dense in the unit sphere S_X . Applying strong peak points instead of u.s.e. points, we generalize this result to a closed subspace of $C_b(M, Y)$, where M is a complete metric space. For complex Banach spaces X and Y, Let $A_b(B_X : Y)$ be the Banach space of all bounded continuous Y-valued mappings f on B_X whose restrictions $f|_{B_X^{\circ}}$ to the open unit ball are holomorphic. It follows that the set of all the norm-attaining elements is dense in $A_b(B_X : Y)$ if the set of all strong peak points in $A_b(B_X)$ is a norming subset for $A_b(B_X)$. (Received January 14, 2010)