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**Bishop-Phelps-Bollobás modulus of a uniformly non-square Banach space.** (English)

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Summary: *M. Chica* et al. [Banach J. Math. Anal. 9, No. 4, 296–315 (2015; Zbl 1334.46013)] demonstrated recently that the Bishop-Phelps-Bollobás modulus  $\Phi_X^S$  of a Banach spaces  $X$  can be estimated from above through the parameter of uniform non-squareness  $\alpha(X)$ :  $\Phi_X^S(\varepsilon) \leq \sqrt{2\varepsilon} \sqrt{1 - \frac{1}{3}\alpha(X)}$ . In this short note we demonstrate that the right-hand side in the above theorem cannot be substituted by anything smaller than  $\sqrt{2\varepsilon} \sqrt{1 - \alpha(X)}$ .

**MSC:**

46B04 Isometric theory of Banach spaces

46B20 Geometry and structure of normed linear spaces

**Keywords:**

Bishop-Phelps theorem; uniformly non-square space