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Sergii Myroshnychenko^{*}, Kent State University, Department of Mathematical Sciences, Summit street, Kent, OH 44242. On a functional equation related to a pair of hedgehogs with congruent projections.

Hedgehogs are geometrical objects that describe the Minkowski differences of arbitrary convex bodies in Euclidean space. We prove that two hedgehogs in the three dimensional Euclidean space coincide up to translation and reflection in the origin, provided that their projections onto any plane are directly congruent and have no direct rigid motion symmetries. Our result is a consequence of a more general analytic statement about the solutions of a functional equation in which the support functions of hedgehogs are replaced with two arbitrary continuous functions on the unit sphere. (Received February 16, 2016)