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A proof of uniqueness of the Gurarii space

A Gurarii space, constructed in 1965, is a separable Banach space that is universal for separable Banach spaces and is approximately homogeneous. Uniqueness up to isometry of the Gurarii space was proved by Lusky in 1976 using deep techniques developed by Lazar and Lindenstrauss. Subsequently, another proof of uniqueness was given by Henson using model theoretic methods of continuous logic. The question whether there is an elementary proof of uniqueness occurred to several mathematicians. This question was made current by recent increased interest in universal, homogeneous structures. In the talk, I will provide just such an elementary proof of isometric uniqueness of the Gurarii space.

This is a joint work with Wieslaw Kubis.