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On a Problem for Isometric Mappings of $\mathbb {S}^n$ Posed by Th. M. Rassias

Authors: Anup Biswas, Prosenjit Roy,

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Abstract: In this article we prove the problem on isometric mappings of $\mathbb{S}^n$ posed by Th. M. Rassias. We prove that any map $f : \mathbb{S}^n \to \mathbb{S}^p$, $p \geq n > 1$, preserving two angles θ and $m\theta$ ($m\theta < \pi$) is an isometry. With the assumption of continuity we prove that any map $f : \mathbb{S}^n \to \mathbb{S}^n$ preserving an irrational angle is an isometry.