

# ON THE MAZUR–ULAM PROPERTY FOR CONTINUOUS FUNCTIONS SPACES

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ABSTRACT. A Banach space  $X$  satisfies the *Mazur–Ulam property* if for any Banach space  $Y$ , every surjective isometry  $\Delta : S(X) \rightarrow S(Y)$  admits an extension to a surjective real linear isometry from  $X$  onto  $Y$ , where  $S(X)$  and  $S(Y)$  denote the unit spheres of  $X$  and  $Y$ , respectively. An equivalent reformulation tells that  $X$  satisfies the Mazur–Ulam property if the so-called Tingley’s problem admits a positive solution for every surjective isometry from  $S(X)$  onto the unit sphere of any Banach space  $Y$ . We shall make in this talk a brief incursion into the origin of the quoted extension problems and provide a new positive answer to them. Concretely, let  $K$  be a compact Hausdorff space and let  $H$  be a real or complex Hilbert space with  $\dim(H_{\mathbb{R}}) \geq 2$ . We shall show that the space  $C(K, H)$  of all  $H$ -valued continuous functions on  $K$ , equipped with the supremum norm, satisfies the Mazur–Ulam property.

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