

Norm-multiplicative mappings between spaces of vector-valued continuous functions

By MALIHEH HOSSEINI (Tehran) and JUAN J. FONT (Castellón)

Abstract. We extend the concept of norm-multiplicativity of a (not necessarily linear) mapping defined between spaces of scalar-valued continuous functions to the vector-valued setting, and prove that in this context norm-multiplicative surjective maps are composition in norm. We also provide several examples to emphasize the differences between isometries and norm-multiplicative maps.

MALIHEH HOSSEINI
FACULTY OF MATHEMATICS
K. N. TOOSI UNIVERSITY OF TECHNOLOGY
TEHRAN, 16315-1618
IRAN

JUAN J. FONT
DEPARTAMENTO DE MATEMÁTICAS
UNIVERSITAT JAUME I
CAMPUS RIU SEC
12071, CASTELLÓN
SPAIN

Mathematics Subject Classification: 47B38, 46J10, 47B33.

Key words and phrases: norm-multiplicative maps, vector-valued continuous functions, nonlinear norm preservers.