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ON METRICAL FIXED POINT THEOREMS IN SYMMETRIC SPACES

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ABSTRACT

The aim of this paper is to obtain some common fixed point theorems for weakly compatible mappings in symmetric spaces satisfying generalized (ψ, ϕ) -contractive conditions under the common limit range property. Our results generalize and extend some recent results to symmetric spaces and consequently a host of metrical common fixed theorems are generalized and improved. In the process, we also derive a fixed point theorem for four finite families of self-mappings which can be utilized to derive common fixed point theorems involving any number of finite mappings. Some illustrative examples to highlight the realized improvements are also furnished.

Keywords

symmetric space; common limit range property; weakly compatible mappings; property (E.A); generalized weak contraction; common fixed point.

SUBJECT CLASSIFICATION

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