NEW RESULTS ON THE ITERATION PROCESS TO FIXED POINTS WITH CONDITION $(B_{\gamma,\mu})$ IN HADAMARD SPACES

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Abstract. We investigate the class of mappings that satisfy condition (B) within general nonlinear domains of CAT(0) spaces. Our study establishes weak convergence and derives several strong convergence results using a three-step M iteration scheme. To analyze the convergence speed of the M iteration in this new setting, we present a numerical example and conduct a comparative study through table and graph that illustrate and support our findings. Our main results extend and improve upon existing convergence and existence results in the literature, transitioning from linear to generalized nonlinear spaces.