JORDAN TRIPLE PRODUCT HOMOMORPHISMS ON TRIANGULAR MATRICES TO AND FROM DIMENSION ONE∗

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Abstract. A map \( \Phi \) is a Jordan triple product (JTP for short) homomorphism whenever \( \Phi(ABA) = \Phi(A)\Phi(B)\Phi(A) \) for all \( A, B \). We study JTP homomorphisms on the set of upper triangular matrices \( T_n(F) \), where \( F \) is the field of real or complex numbers. We characterize JTP homomorphisms \( \Phi : T_n(C) \to C \) and JTP homomorphisms \( \Phi : F \to T_n(F) \). In the latter case we consider continuous maps and the implications of omitting the assumption of continuity.