ON BANACH CONTRACTION PRINCIPLES
IN FUZZY METRIC SPACES

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Abstract. In this paper we discuss the concept of Cauchy sequence due to Grabiec, that we call G-Cauchy, in the context of fuzzy metric spaces. It leads to introduce and study a concept of weak G-completeness in fuzzy and classical context. Then, we generalize the celebrated Grabiec's fuzzy Banach Contraction Principle. Also, we extend the Mihet's fixed point theorem given for weak B-contractive mappings.

Key Words and Phrases: Fixed point theorem, fuzzy metric space, G-Cauchy sequence.

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