

Contents

1	Introduction. Objectives	4
1.1	Background of study	4
1.2	Objectives	7
1.3	Preliminaries	9
2	Some questions in fuzzy metric spaces	17
2.1	Introduction	18
2.2	Introducing the examples. On completeness and completion. .	19
2.3	On continuity and uniform continuity	26
2.4	Extending fuzzy metrics	29
2.4.1	A related fuzzy pseudo-metric	29

2.4.2	A fuzzy metric extension of M^*	30
2.5	Contractivity in $(]0, \infty[, M_0, \cdot)$	31
2.5.1	On contractivity	31
2.6	Application of the fuzzy metric M_0 to measure perceptual colour differences	34
3	On completable fuzzy metric spaces	41
3.1	Introduction	42
3.2	A non-completable fuzzy metric space	43
4	Characterizing a class of completable fuzzy metric spaces	53
4.1	Introduction	54
4.2	Non-completable fuzzy metric spaces	55
4.3	Completable strong fuzzy metrics	59
5	A note on convergence in fuzzy metric spaces	67
5.1	Introduction	68
5.2	s -convergence	69
5.3	On a class of s -fuzzy metrics	74

5.4	A classification of fuzzy metric spaces	77
6	A note on local bases and convergence in fuzzy metric spaces	81
6.1	Introduction	82
6.2	Local bases in (principal) fuzzy metric spaces	83
6.3	Local bases in s -fuzzy metric spaces	87
7	std-convergence in fuzzy metric spaces	91
7.1	Introduction	92
7.2	Results	93
8	Discussion of the obtained results and conclusions	97