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ON THE IMAGES OF LM-G-FILTERS AND LM-G-FILTERBASES

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Abstract: This paper studies LM-G-filters as a generalization of LM-filters. Images of LM-G-filter spaces and LM-G-filterbases induced by functions are investigated and some of their properties are derived. It is shown that the property of being weakly inspired, catalyzed, s-stratified and stratification of LM-G-filter spaces are preserved by images. Moreover the categorical connections of LM-G-filter spaces with neighborhood systems are also identified.

Keywords and Phrases: LM-G-filters, Images, Quantale, Neighborhood systems.

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1. Introduction

In 1977, Lowen [12] developed the idea of filters in I^X, called prefilters to discuss convergence in fuzzy topological spaces. In 1999 Burton et al. [3] introduced the concept of generalized filters as a map from 2^X to I. Subsequently Höhle and Šostak [4] developed the notion of L-filters and stratified L-filters on a complete quasi-monoidal lattice and discussed their role in the development of fuzzy convergence