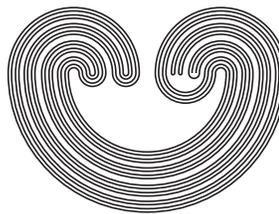


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## STRONGLY SYMMETRIC COMPACTIFICATIONS

by

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## STRONGLY SYMMETRIC COMPACTIFICATIONS

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**ABSTRACT.** Convergence approach spaces, defined by E. Lowen and R. Lowen [*A quasitopos containing CONV and MET as full subcategories*, Internat. J. Math. Math. Sci. **11** (1988)], possess both quantitative and topological properties. These spaces are equipped with a structure which provides information as to whether or not a sequence or filter approximately converges. Paul Brock and D. C. Kent [*Approach spaces, limit tower spaces, and probabilistic convergence spaces*, Appl. Categ. Structures **5** (1997)] show that the category of convergence approach spaces with contractions as morphisms is isomorphic to the category of limit tower spaces. Properties of the category of strongly symmetric limit tower spaces are studied here. In particular, a characterization of the limit tower spaces which possess a strongly symmetric compactification is given. Moreover, one-point strongly symmetric compactifications of limit tower spaces are studied.

### 1. INTRODUCTION AND PRELIMINARIES

The category AP of approach spaces was defined by R. Lowen in 1989 [10]. The category AP contains the categories TOP and MET as full subcategories and possesses both quantitative and topological-like properties. In particular, information as to whether a sequence or filter approximately converges is provided by the approach structure. E. Lowen and R. Lowen [9] embedded AP in the quasitopos CAP of convergence approach spaces. These and other results and references can be found in the monograph by R. Lowen [11].

The framework of the present paper is the category LTS of limit tower spaces. Paul Brock and D. C. Kent show in [3, Theorem 9] that CAP

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