

Report of the work on regular closed extensions

P.P. Ghosh* and D. Baboolal

University of KwaZulu-Natal

ghosh.parthapratim.ukzn@gmail.com, baboolald@ukzn.ac.za

SAMS Subject Classification: Topology; Algebra

This is a report of our work in connection with regular closed extensions of a regular topological space. On one hand, there is a well known counter example of a regular T_1 space which cannot be embedded densely into any regular closed T_1 space, and the Tychonoff spaces can always be embedded into a regular closed T_1 space, while on the other hand there seems to be a detailed paper due to Porter and Votaw providing an extension of a regular T_1 space into *OCER* spaces (= open combinatorially embedded regular spaces) which subsumes the problem of regular closed extensions. However, the problem still seems to be unsolved in the following sense : what are the class of regular spaces for which there exists a dense extension into a regular closed spaces.

The purpose of our project is to address this on the category \mathfrak{Frm} of frames; the project is still incomplete and we report some of the results obtained so far.