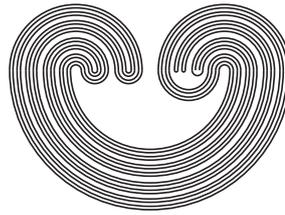


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## HAUSDORFF CLOSEDNESS IN THE CONVERGENCE SETTINGS

by

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## HAUSDORFF CLOSEDNESS IN THE CONVERGENCE SETTING

JOHN P. REYNOLDS

**ABSTRACT.** We use convergence theory as the framework for studying H-closed spaces and H-sets in topological spaces. From this viewpoint, it becomes clear that the property of being H-closed and the property of being an H-set in a topological space are pretopological notions. Additionally, we define a version of H-closedness for pretopological spaces and investigate the properties of such a space.

### 1. INTRODUCTION AND PRELIMINARIES

The early development of general topology was guided in part by the desire to develop a framework in which to discuss different notions of convergence found in analysis. In 1948, G. Choquet [4] laid out the theory of *convergence spaces*, general enough to contain the classes of topological spaces and closure spaces while unifying the desired notions of convergence.

Once an agreed-upon definition of topological space was arrived at, the concept of compactness revealed itself to be deserving of much study and subsequently of generalization. One of the most fruitful variations of compactness is that of a *Hausdorff closed space*, defined in [1] by

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*Key words and phrases.* H-closed, H-set, Pretopological Space.

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