

**Meeting:** 1004, Bowling Green, Kentucky, SS 8A, Special Session on Topology, Convergence, and Order, in Honor of Darrell Kent

1004-54-101      **John J. Schommer\*** (jschomme@utm.edu), Department of Mathematics and Statistics, University of Tennessee at Martin, Martin, TN 38238, and **Biswajit Mitra**. *Hyper-real maps and nearly realcompact spaces.*

There are three different approaches to the study of nearly realcompact spaces in the literature. Johnson and Mandelker have referred to them as  $\eta$ -compact spaces, characterizing them in terms of ideals of continuous functions. Blair and van Douwen produced quite a few results by characterizing nearly realcompact spaces in terms of their relatively pseudocompact cozero-sets. In this talk we continue the third development of nearly realcompact spaces that parallels Henriksen and Rayburn's approach to nearly pseudocompact spaces. We will focus in particular on mapping theorems.

It has long been known that hyper-real maps preserve realcompactness. Among other things, we will show that hyper-real maps preserve nearly realcompactness as well. (Received January 19, 2005)