

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

1004-54-121 **N Rath*** (rathn@maths.uwa.edu.au). *Convergence structures for homeomorphism groups and coset spaces.*

The talk will outline some recent work on continuous group actions of homeomorphism groups and coset spaces with respect to appropriate convergence structures.

A convergence space X is called a G – *convergence space*, if a convergence group G acts continuously on X . In particular, $H(X)$, the homeomorphism group of X acts continuously on X . When X satisfies some special properties, there are different types of convergence group structures on $H(X)$, which ensure continuous group action of $H(X)$ on X . Furthermore, there exists an one-to-one correspondence between the continuous representations of a convergence group G into the homeomorphism group $H(X)$ where X is a limit space, and the continuous group actions of G on X . This result extends the classical idea of relating continuous actions of a topological group on a topological space T with its representations on the group of homeomorphisms $H(T)$. However, in a topological case such an one-to-one correspondence does not exist except for a locally compact T .

Also, for any subgroup N of the convergence group G , the coset space G/N is a G - convergence space. Attempts have been made to show that transitive G - convergence spaces are similar in structure to coset spaces. (Received January 20, 2005)