

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

1004-54-44      **Luminița Simona Viță\*** ([l.vita@math.canterbury.ac.nz](mailto:l.vita@math.canterbury.ac.nz)). *Apartness spaces—a constructive approach.*

Within the framework of Bishop’s constructive mathematics, we introduce the notion of (pre-)apartness between points and subsets in an abstract set  $X$ , and derive some elementary properties. Each point–set apartness gives rise to a topology—the apartness topology—on  $X$ , and to several constructively distinct continuity properties.

We extend the notion of point–set pre–apartness axiomatically to one of pre–apartness between subsets of a nontrivial set  $X$ . In contrast to the counterpart classical theory, it turns out that the constructive theory of apartness spaces is larger than that of quasi–uniform spaces. (Received January 10, 2005)