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**Anand Pillay\*** (apillay@nd.edu). *Bounded invariant equivalence relations and Borel cardinality*  
(joint with K. Krupinski and T. Rzepecki).

If  $E$  is an automorphism invariant equivalence relation on a sort in a saturated model of a countable theory, we call  $E$  bounded if it has at most continuum many classes. Such an equivalence relation  $E$  can be considered as an equivalence relation on the (Polish) space of complete types over a countable model and as such we can ask about its Borel cardinality. We prove that  $E$  is either type-definable (i.e. closed, so essentially trivial) or non smooth; and other related results. We use the topological dynamics of the automorphism group of a saturated model. (Received August 10, 2015)