

1024-11-265

Parimala Raman* (parimala@mathcs.emory.edu), Dept. of Mathematics and Computer Science, Emory University, 400 Dowman Drive, Suite W401, Atlanta, Georgia 30322. *Zero cycles of degree one versus rational points*. Preliminary report.

It is an open question whether the existence of a zero-cycle of degree one implies the existence of rational points on principal homogeneous spaces under connected linear algebraic groups. The question has an affirmative answer for number fields, a result due to Sansuc, which uses Hasse principle. We explain how Hasse principle in the setting of virtual cohomological dimension 2 fields leads to an affirmative answer to the question over such fields. Hasse principle in this setting is a conjecture due to Colliot Thélène which is settled in the affirmative by Bayer-Parimala for classical groups. (Received January 12, 2007)