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**Fedor A Bogomolov\*** (bogomolo@cims.nyu.edu), 2 Washington Square Village 16 R, New York, NY 10012. *Elliptic division and unramified correspondence.*

Every elliptic curve  $E$  over  $k$  (let us  $\text{char } k \neq 2$ ) defines a subset  $P_{E,tors}$  in a projective line corresponding to the the image of torsion points of  $E$  if we consider the quotient of  $E$  by involution and define the subset of two-torsion points as the set of invariant points under involution. The set  $P_{E,tors}$  considered modulo projective automorphisms of  $P^1$  characterizes the curve  $E$ . Consider the following enlargement of  $P_{E,tors}$ . Take any four points from  $P_{E,tors}$  and add all the images of corresponding elliptic curve. Then consider the new set and repeat this operation infinitely many times. Theorem The resulting set for a curve  $E$  defined over a number field is equal to the subset  $P^1(K)$  where  $K$  depends on the initial curve  $E$ . This result is applied to the construction of unramified correspondences between curves defined over number fields. (Received September 21, 2011)