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Charlotte Ure* (urecharl@msu.edu). *An Algorithm to Determine the Three Torsion of the Brauer Group of an Elliptic Curve*. Preliminary report.

Let k be a field of characteristic different from 2 or 3 containing a primitive third root of unity and let E be an elliptic curve over k . An implication of the Merkurjev-Suslin theorem is that every element in the Brauer group of E of exponent 3 can be described as a tensor product of symbol algebras over the function field of E . I give an algorithm to calculate the generators and relations of the three torsion of the Brauer group of E in terms of these tensor products. This is work in progress. (Received September 25, 2018)