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**Abbey Bourdon\*** (abourdon@uga.edu) and **Pete L. Clark.** *Torsion Points on CM Elliptic Curves.*

Let  $F$  be a number field, and let  $E/F$  be an elliptic curve with complex multiplication (CM) by an order  $\mathcal{O}$  in an imaginary quadratic field  $K$ . We provide an explicit description of the Weber function field of  $E$ , classically known in the case where  $\mathcal{O}$  is the full ring of integers in  $K$ , and we use this to prove a uniform open image theorem for  $K$ -CM elliptic curves whose endomorphisms are rationally defined. We apply these results to give a complete determination of the degrees of  $K$ -CM points on the modular curves  $X_1(N)/K$  for any positive integer  $N$ . (Received September 20, 2016)