1147-11-31   **T. Alden Gassert** (`gassert@hws.edu`), Department of Mathematics and Computer Sci., Hobart and William Smith Colleges, 300 Pulteney St, Geneva, NY 14456, **Hanson Smith*** (`hanson.smith@colorado.edu`), Department of Mathematics, University of Colorado, Campus Box 395, Boulder, CO 80309, and **Katherine E. Stange** (`kstange@math.colorado.edu`), Department of Mathematics, University of Colorado, Campus Box 395, Boulder, CO 80309. *A family of monogenic S_4 quartic fields arising from elliptic curves.*

We consider partial torsion fields (fields generated by a root of a division polynomial) for elliptic curves. By analysing the reduction properties of elliptic curves, and applying the Montes Algorithm, we obtain information about the ring of integers. In particular, for the partial 3-torsion fields for a certain one-parameter family of non-CM elliptic curves, we describe a power basis. As a result, we show that the one-parameter family of quartic S_4 fields given by $T^4 - 6T^2 - \alpha T - 3$ for $\alpha \in \mathbb{Z}$ such that $\alpha \pm 8$ are squarefree, are monogenic. (Received October 31, 2018)