1003-05-1516 **Benjamin T Johnson*** (johnsonb@kenyon.edu), PO Box 1543, Gambier, OH 43022, and **Nuh Aydin** (aydinn@kenyon.edu), Department of Mathematics, Kenyon College, Gambier, OH 43022. *An Improved Algorithm to Search for Quasi-Twisted Error Correcting Codes.* Preliminary report.

The theory of error-correcting codes is used to improve the reliability of digital communications. One of the main problems in this area is the construction of efficient codes. Algebraic coding theory uses algebraic tools to achieve this goal. In this work, we focus on a class of codes called Quasi-twisted (QT) codes. Taking advantage of the rich algebraic structure of these codes, we have devised improvements to existing computer algorithms which search for new codes. The improvements are based on the Chinese Remainder Theorem. We are currently implementing these algorithms, and we hope to find some new record-breaking codes. We will be running our search code on the computers at OSC, the Ohio Supercomputer Center at Ohio State University. Undergraduate abstract algebra is the only prerequisite to understand this talk. (Received October 05, 2004)