Ahlam E Tannouri* (ahlam.tannouri@morgan.edu), Mathematics Department, Morgan State University, 1700 E. Cold Spring, Baltimore, MD 21251, and Sam F Tannouri (sam.tannouri@morgan.edu). On some fundamental properties and applications of continued fractions to coding theory. Preliminary report.

In number theory the field of Diophantine approximation has a long history. Many methods for solving problems in this field have been invented using continued fractions as as a stepping stone. On the new era of advanced communication, fast arithmetic on hyperelliptic curves via continued fraction will be explored as an application to coding theory. (Received September 16, 2008)