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Pieter Rozenhart and **Jonathan Webster*** (jwebster@bates.edu), 3 Andrews Road,
Lewiston, ME 04240. *Simple Cubic Function Fields*.

In this talk, we study simple cubic fields in the function field setting, and also generalize the notion of a set of exceptional units to cubic function fields, namely the notion of k -exceptional units. We give a simple proof that the Galois simple cubic function fields are the immediate analog of Shanks simplest cubic number fields. We prove that a unit arising as a root of the polynomial is a fundamental unit. In addition to computing the invariants, including a formula for the regulator, we compute the class numbers of the Galois simple cubic function fields over \mathbb{F}_5 and \mathbb{F}_7 . Finally, as an additional application, we determine all Galois simple cubic function fields with class number one, subject to a mild restriction. (Received September 20, 2011)