

Meeting: 1001, Evanston, Illinois, SS 23A, Special Session on Mathematical Techniques in Musical Analysis

1001-12-114 **Emmanuel Amiot*** (manu.amiot@free.fr), 1, rue du Centre, 66570 St Nazaire, France. *From Rhythmic Canons to Fuglede's conjecture.*

The study of rhythmic canons, a musical notion, involves interesting algebra, for instance cyclotomic polynomials and Galois theory on finite fields. Of course these powerful mathematical tools reap musically interesting results. On the other hand, a musician's perspective on these questions suggests challenging concepts and leads to new results which are of interest even to pure mathematics. This paper will end by explaining how the notion of 'Rhythmic Canons of Maximal Categories' introduced in 1991 by Dan Tudor Vuza has recently been used to elucidate some cases of the Fuglede's conjecture on the real line. (Received August 18, 2004)