1086-03-1345   **Asher M Kach**, **Karen Lange** and **Reed Solomon*** (david.solomon@uconn.edu), Department of Mathematics, University of Connecticut, U-3009, Storrs, CT 06269. *Turing degrees of orders on torsion-free abelian groups.*

The space of orders on a computable formally real field or computable torsion-free abelian group forms a Π^0_1 class. In the case of fields, one can represent any Π^0_1 class (up to Turing degree) by the space of orders in some computable field. However, this property fails for computable abelian groups even for Π^0_1 classes which are classically homeomorphic to Cantor space. This talk will focus on a recent construction showing that for certain computable torsion-free abelian groups, one can always find a presention for which the set of degrees of orderings is not upwards closed in the Turing degrees. (Received September 21, 2012)