

1056-13-1328

Benjamin Antieau* (antieau@math.uic.edu), Department of Mathematics (m/c 249), University of Illinois at Chicago, 851 South Morgan Street, Chicago, IL 60607-7045, and **Alexey Ovchinnikov** (aiovchin@gmail.com). *Galois theory of difference equations with difference parameters.*

In this talk, the authors explore an application of Dima Trushin's work on difference Nullstellensatz theorems to the creation of a Galois theory of difference equations with difference parameters. This complements the works of Cassidy, Singer, and Hardouin on the Galois theory of difference and differential equations with differential parameters. However, serious ring-theoretical difficulties must be dealt with in the case where one has difference parameters. These are approached by building upon the initial idea of Trushin's difference closed rings (pseudo-fields). (Received September 21, 2009)