

1054-46-310

**Jesse Peterson\*** ([jesse.d.peterson@vanderbilt.edu](mailto:jesse.d.peterson@vanderbilt.edu)), Department of Mathematics, 1326 Stevenson Center, Nashville, TN 37240. *Cocycle Superrigidity for Gaussian Actions*.

I will present a general setting to prove  $U_{fin}$ -cocycle superrigidity for Gaussian actions in terms of closable derivations on von Neumann algebras. In this setting I will provide new examples of this phenomenon, extending results of S. Popa. I will also use a result of K. Schmidt to give a necessary cohomological condition on a group representation in order for the resulting Gaussian action to be  $U_{fin}$ -cocycle superrigid. This is joint work with Thomas Sinclair. (Received September 16, 2009)