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Jesse Peterson* (jesse.d.peterson@vanderbilt.edu), Mathematics Department, Vanderbilt University, 1326 Stevenson Center, Nashville, TN 37240, and **Thomas Sinclair** (thomas.sinclair@vanderbilt.edu). *On cocycle superrigidity for Gaussian actions.*

I will present a general setting to investigate U_{fin} -cocycle superrigidity for Gaussian actions in terms of closable derivations on von Neumann algebras. In this setting I will describe some U_{fin} -cocycle superrigidity results of S. Popa and produce new examples of this phenomenon. 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. (Received August 17, 2010)