1085-81-173 **Jeremy Thane Clark*** (jtclark@msu.math.edu). *Diffusive limit for a quantum linear Boltzmann dynamics.*

I will discuss a quantum linear Boltzmann dynamics proposed by Bassano Vacchini and Klaus Hornberger, which models a test particle receiving collisions from a background gas. The state of the particle is represented by a density matrix whose time evolution is determined by a translation-covariant Lindblad equation. My mathematical results for this model concern the characterization of its diffusive behavior in the specific case for which the gas particle scattering occurs through a hard-sphere interaction. (Received September 09, 2012)