Wigner Function for a Quantum Wire with an Impurity YI TANG, TOMAS MATERDEY, University of Massachusetts Boston — We present the Wigner function for a Gallium Arsenide (GaAS) quantum wire subjected to a magnetic field with an off-center donor impurity. The Wigner function is more sensitive to detecting changes than the variational wavefunction for smaller scale differences in a quantum wire with an impurity.