1023-Z1-317 **Jason C Fox*** (foxjc@jmu.edu), Dept of Math & Stat, James Madison University, Harrisonburg, VA 22807, and **Caroline P Lubert** (smithc@math.jmu.edu), Dept of Math & Stat, James Madison University, Harrisonburg, VA 22807. *The Aeroacoustics of Turbulent Coanda Jet Flows.*

The Coanda effect is an aeronautical phenomenon used to enhance the turbulence levels and increase the entrainment associated with devices employing this effect. However, the wide range of potential applications in the field of aeronautics and aerospace has not been able to be fully exploited due to the significant increase in the acoustic radiation generally observed with such devices, when compared with corresponding applications utilizing conventional jet flows. A primary high frequency noise source in this case is Turbulent Mixing Noise (TMN), generated aerodynamically as a result of the fluctuations in the turbulent shear stress caused by turbulent mixing of the jet flow with the surrounding ambient air. Mathematical models have been developed to predict the TMN emitted by a plane 2D wall jet. Here the theory is extended to the case of a 3D Coanda jet. The effect of key flow characteristics such as jet exit velocity and wall curvature are discussed, and extensions to the model are suggested and comparison with experimental results is presented. (Received September 05, 2006)