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Collin Kofroth* (ckofroth@asu.edu), **Duane Harris** and **Mohamed Moustaoi**. *Numerical Solutions of the Taylor-Goldstein Equation for Gravity Waves Propagating through the Tropopause Inversion Layer.*

A numerical study of wave-induced momentum transport across the tropopause in the presence of a stably stratified thin inversion layer will be discussed. This layer consists of a sharp increase in static stability within the tropopause. The wave propagation is modeled by numerically solving the Taylor-Goldstein equation, which governs the dynamics of internal waves in stably stratified shear flows. The waves are forced by a flow over a bell shaped mountain placed at the lower boundary of the domain. A perfectly radiating condition based on the group velocity of mountain waves is imposed at the top to avoid artificial wave reflection. A brief validation for the numerical method through comparisons with the corresponding analytical solutions will be provided. Then, the method will be applied to more realistic profiles of the stability and wind shear to study the impact of these profiles on wave propagation through the tropopause. (Received September 20, 2016)