

Testing Hainan's meteor radar for inferring Gravity Waves momentum fluxes

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Modified composite day is applied to Hocking's (2005) technique for studying gravity waves (GW) momentum fluxes using Hainan's (19° N; 119° E) all-sky meteor radar. Hainan's meteor radar belongs to the Chinese Ground-based Space Weather Monitoring Project. Several tests were applied on its data in order to verify the accuracy of inferring GW momentum fluxes. These tests were done for specified mean, tidal, and gravity wave fields, including tidal amplitudes and gravity wave momentum fluxes varying strongly with altitude and/or time. Tests results show that Hainan meteor radar can resolve well mean winds and tides. On the other hand, more tests should be applied and more analysis must be done in order to verify why even with a high number meteor echoes detected, GW momentum fluxes seem not to be well resolved.