



Acoustic waves generated by gusty flow over hilly terrain

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We have examined the generation of acoustic waves by gusty flow over hilly terrain. We use simple theoretical models of the interaction between terrain and eddies and a linear model of acoustic-gravity wave propagation. Our calculations suggest that over an array of geographically extensive sources orographically generated vertically propagating acoustic waves can be a significant cause of thermospheric heating. This heating may account in good part for the thermospheric hot spot near the Andes reported by Meriwether et al. [1996, 1997].