Gravity waves on extrasolar planets

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We study heat and momentum transport by gravity waves on extrasolar planets, using a robust, one-dimensional numerical model. Vertical and horizontal wave propagation in atmospheres with different temperature and mean flow structures, compositions, and dissipation profiles are analyzed. Not all waves propagate and conditions for propagation are discussed. Mechanisms for the deposition of heat and momentum are considered along with some of their implications for the modelling of atmospheric flows and temperature structures.