



Optimizing the gravity wave launch spectrum of the Warner and McIntyre parameterization using gravity wave momentum flux measurements by CRISTA

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Absolute values of gravity wave (GW) momentum flux in the altitude range 20-50km are obtained from temperatures measured by the CRISTA satellite instrument in November 1994 (CRISTA-1) and August 1997 (CRISTA-2). Global distributions of GW momentum flux calculated with the Warner and McIntyre GW parameterization scheme for the same periods are compared to the distribution of CRISTA GW momentum flux. Based on this comparison the possible ranges of the tunable input parameters used in the parameterization scheme can be constrained. Best agreement is obtained for a GW launch altitude of about 5 km and a range of about 0.25-0.5 cycles/km for the parameter m^* defining the spectral maximum of the vertical wavenumber launch spectrum used in the model.