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Energy flux of Alfvén waves in the stratified solar atmosphere: propagation and reflection

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The propagation of Alfvén waves with periods > 10 s in the stratified isothermal atmosphere has been considered. Based on the numerical simulation the dependence of the wave energy flux on the height at different values of wave periods has been calculated. It has been shown that the so-called tuning points («cutoff frequencies») could not be used for the description of wave energy flux. The results are interpreted on the basis of the oscillation theorems and phase relationships between perturbed velocity and magnetic field. The process of continuous reflection of Alfvén waves in the solar atmosphere is discussed.

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