Excitation of the Earth's free oscillation by cumulus clouds in the atmosphere: Part 2

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Incessant excitation of the earth's free oscillation repoerted recently may caused by the heating in the cumulus clouds in the atmosphere. In order to examine this hypothesis, we calculated the linear response of two dimensional atmosphere to thermal heating which contains statistical fluctuation resulting from "quantization" into cloud elements and estimated the excitation amplitude of free oscillation excitation.

The calculated response can reproduce observed properties of the incessant excitaion. Namely, the "flat" excitation in 3-7 mHz range results from cancellation between the redness of heating by each cumulus cluds and the violetness caused by (2n+1)-th degeneracy of modes in each eigenfrequency(n is angular order).