Effect of Modulation on Rayleigh-Benard Convection-II

B. S. Bhadauria

Department of Mathematics and Statistics, Jai Narain Vyas University, Jodhpur-342001, India

Reprint requests to B. S. B.; E-Mail: bsbhadauria@rediffmail.com

The linear stability of a horizontal fluid layer, confined between two rigid walls, heated from below and cooled from above is considered. The temperature gradient between the walls consists of a steady part and a periodic part that oscillates with time. Only infinitesimal disturbances are considered. Numerical results for the critical Rayleigh number are obtained for various Prandtl numbers and for various values of the frequency. Some comparisons with known results have also been made.

Key words: Modulation; Stability; Rayleigh Number; Odd Solution; Thermal Convection.