Combined effects of a magnetic field and a helical force on the onset of a rotating Rayleigh-Bénard convection with free-free boundaries
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— We investigate the combined effects of rotation , magnetic field and helical force on the onset of stationary and oscillatory convection in a horizontal electrically conducting fluid layer heated from below with free-free boundary conditions. For this investigation the linear stability analysis studied by Chandrasekhar (1961) is used. We obtain the condition for the formation of a single large scale structure. In (Pomalégni et al, 2014) it was shown the existence of a critical value S_{cr} of the intensity of the helical force for which the apparition of two cells at marginal stability for the oscillatory convection is obtained. Then, we have shown here how the increasing of parameter Ta influences this critical value of the helical force intensity.

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