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Abstract: Cosserates theory of couple-stresses has been applied to investigate the stress distribution in an infinite plate with a circular hole. The hole is subjected to the action of radial forces, which are not necessarily uniformly throughout the hole. The forces have been expressed in terms of Fourier series and the problem has been solved with the general case of loading.

For an illustration of the method, a particular type of load distribution has been assumed. It is found that the effect of couple stresses is increasing as the parameter of couple-stresses increases.

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Abstract: The problem of heat transfer due to the flow of an electrically conducting incompressible viscous fluid from a rotating disc in the cases when it is maintained

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at a constant temperature and also. when it is insulated, has been considered. The effects of a weak magnetic field applied along the axis of rotation have been studied. In the first case it is found that an increase in the magnetic number increases the temperature throughout the thermal boundary layer. The temperature also increases with an increase in the magnetic effects in the second case.

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