

**Effect of Slip Velocity on Longitudinal Rough Hydro magnetic  
Squeeze Film Conducting Rotating Circular Plates**

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**Abstract:**

The purpose of this paper is to investigate the combined effects of longitudinally rough surface with slip velocity on the performance of rough rotated circular plates based on a H.F. Surfaces of bearing are assumed to be rough in nature (longitudinally). The outcome of slip velocity has been evaluated using Beavers and Joseph's slip model. The influence of longitudinally surface irregularity was estimated using C&T's stochastic model. To obtain the pressure distribution, the related Reynolds' type equation is solved with proper B.C., resulting to the computation of load. Further, the terminologies for friction and pressure are obtained. Here results are given graphically, to obtain the P.D., the related Reynolds' type equation is solved with proper B.C., resulting to the computation of load. The results indicate that longitudinal irregularities are more beneficial than transverse irregularities. The slip velocity further enhances this opposing effect. Despite the fact that slip velocity and S.D. raise the load, When variance (-ve) develops, the magnetization rescues the situation in the event of negatively skewed irregularities. Smaller values of slip parameter, on either hand, may be preferable for overall bearing efficiency.

**Index Terms:** Circular plates, hydro magnetization, longitudinal irregularities, rotation and slip velocity.