

# **Influence of slip velocity on longitudinally rough hydromagnetic squeeze film on conical plates**

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## **Abstract:**

The goal of this research is to investigate the effect of slip velocity on a rough (longitudinally) hydromagnetic conical plate. The bearing faces are expected to be rough (longitudinally). The slip velocity results are based on Beavers and Joseph's slip model. The C&T stochastic analysis was used to assess the impact of surface irregularity. The P.D. is found by solving Reynolds' type equation with suitable B.C., which leads to the determination of load. On the other hand, the negatively skewed irregularity tends to improve the bearing system's achievement. In the case of standard deviation due to slip velocity, it is shown that the load improves when compared to the irregularity (transverse) trends. The bearing system's efficiency is enhanced by using a hydromagnetic fluid lubricant. In the case of negatively skewed irregularity, the negative impact of slip velocity and standard deviation associated with roughness can be mitigated to some extent by the positive influence of hydromagnetic fluid.

## **Keywords:**

Conical plates, hydro magnetization, longitudinal irregularities, rotation, slip velocity