

# EFFECT OF HEAT LOAD ON PRESSURE DROP IN TWO PHASE FLOW

## Abstract

Pressure drop in superconducting magnets is a very critical issue during operation. Pressure drop in two phase is much larger as compared to single phase liquid flow. It is necessary to study two phase pressure drop in cable in conduit conductor (CICC). As heat flux on flow path increases, extent of vaporisation and mass fraction of vapour in the flow also increases. Increased vaporisation resulted in increased pressure drop. Thus it is desirable to study effect of heat load on pressure drop. In this study uniform Heat flux will be considered on entire flow area. It is planned to estimate pressure drop with the help of empirical relations and Ansys software. This study will be done for different fluids.

Initially a straight section tube will be considered for this study. Further this study will be extended to straight CICC and solenoid coil made from CICC. Comparison of results from software analysis to available experimental results will be done.

Relevant references [Publications, web links etc.]:

**Eligibility: Only students of M.E. / M.Tech (Mechanical / Thermal ) (01 student) branches can submit their application at**

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