

**Temperature Dependent Higher Order Modes (HOM) in the SRS Cavities**, C.L. DAWSON, D.M. DYKES, S.F. HILL and P.A. McINTOSH, CLRC Daresbury Laboratory, Warrington, WA4 4AD, UK - Higher Order Modes (HOM) characteristics of accelerating cavities in modern light sources are of great importance since they can limit the ultimate source brightness. One method to reduce this effect is to control the cavity operating temperature. Finite Element Analysis (FEA) of the geometry of the Daresbury SRS cavity has been performed to predict the changes in dimensions as the cavity temperature is varied. This analysis has then been used to predict the HOM spectra at various cavity temperatures using the computer simulation code MAFIA. The results of this analysis have been compared with measured results on the SRS test cavity.