

The Fabrication and Cold Test of a High Brightness X Band RF Gun, C.H. HO, S.Y. HSU, J.I. HWANG, W.K. LAU, Y.C. LIU, T.T. YANG, SRRC, Hsinchu, Taiwan; S. BURNS, F.V. HARTEMANN, G.P. LESAGE, N.C. LUHMANN, Jr., UC Davis, California, USA - A high repetition rate, multibunch photoinjector project was proposed recently. A 1-1/2¹ cell X-band (8.548 GHz) photocathode RF gun will be used to accelerate a train of a hundred 1 nC electron bunches to an energy of around 5 MeV. A joint collaboration between UC Davis and SRRC has been established to expedite the construction and experimental studies of the X-band RF gun structure. A prototype copper cavity has been fabricated. The results of low power level rf measurements will be presented.

- 1 G.P. LeSage, et al., "2.142 GHz Repetition Rate High Brightness X-Band Photoinjector", in Proc. 1995 IEEE Particle Accelerator Conf. (Dallas, Texas, USA).