

Design of the Cooling System for a 25 kW Landau Cavity at SRRC, L.H. CHANG, S.S. CHANG, M.C. LIN, CH. WANG, T.T. YANG, SRRC Taiwan - A passive Landau cavity is going to be installed in the storage ring at Synchrotron Radiation Research Center (SRRC) in Taiwan. It was calculated that the total thermal power induced on the cavity body is about 25 kW. A cooling system has been designed for bringing away the thermal power to make this cavity work well. The temperature variation on the cavity body is expected to be less than 0.5 C. Some electronic temperature and flow sensors, as well as a motorized control valve and two PID controllers, are therefore used to control the temperature. As a passive cavity, a heater is also necessary for warming it up to work temperature. However, it is also possible to change the work temperature in the range between 20 to 60 C with the adopted equipment. This brings the chance of avoiding unexpected high order modes by changing the cavity body temperature. Some detailed design concepts on this cooling system are described herein. Furthermore, a comparison between this cooling system and the available one for the Doris cavity in SRRC is also made.