

POWER COUPLER DEVELOPMENT FOR ERL MAIN LINAC IN JAPAN

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We started to develop an input power coupler for a 1.3GHz ERL superconducting cavity for main linac. We fabricated power coupler components such as ceramic windows and bellows and carried out the high-power test of the components by using a CW 30kW IOT power source. During this test, the ceramic window was broken by the sudden heat load. We found that this heat load occurred by the unexpected dipole mode. We renewed the ceramic window and successfully carried out the high power test up to CW 27kW input power. Next from these results, we newly fabricated one coupler and try to apply the high power test and also test the heat load measurement by using vacuum insulator with liquid nitrogen.