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Development of RF Fundamental Coupler for 325 MHz Superconducting Single Spoke Resonator

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An RF Fundamental Power Coupler(FPC) designed to operate under 7 kW CW for 325 MHz superconducting(SC) single spoke resonator(SSR) in the high energy SC Linac of the RAON. A prototype FPC has a coaxial shape with an impedance of 98 ohm and an outer radius of 36 mm. It is checked that the MP exists within the SSR operating range. Reduction or elimination of the MP is estimated applying DC voltage at the center conductor of the FPC. Detailed test setup and test results are presented.

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