

WARM TEST OF A MODIFIED TTF-III INPUT COUPLER UP TO 10 KW CW RF-POWER

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Abstract

The TTF-III input coupler was designed for pulsed operation at average power levels up to 5 kW. For CW-applications, higher power levels are desirable. Previous investigations have identified the connection between 4K and 78K section as the bottleneck for maximum usable power level. We have modified this section of the coupler by including a gas cooling. This setup was tested in a coupler-test-stand at room temperature. We have achieved stable operation at power levels up to 10kW which is sufficient for the field levels that are to be reached in the BerlinPro ERL. The results can be regarded as a worst case scenario, since the heat conductivity of all involved materials is rising significantly upon cooling to operating temperatures.

**CONTRIBUTION NOT
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