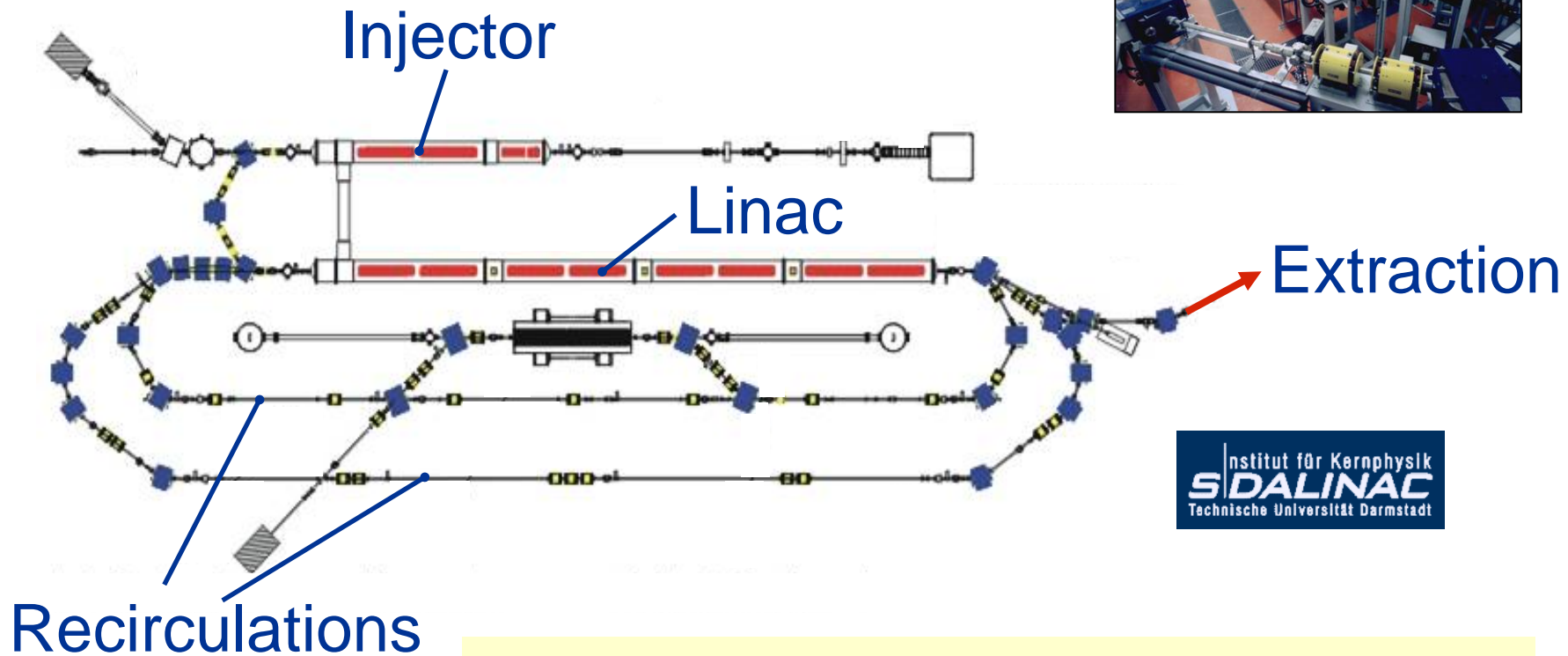


Poster THP55

Electromagnetic Design of New RF Power Couplers for the S-DALINAC

**M. Kunze, W.F.O. Müller, T. Weiland,
M. Brunken, H.-D. Gräf, A. Richter**

Superconducting DArmstadt LINear ACcelerator @ IKP, TUD



Electron Linac with 2 Recirculations
(Energy = 3 x 40 MeV = 120 MeV)



Upgrade of S-DALINAC

Increase of Beam Current
from $60 \mu\text{A}$ to $250 \mu\text{A}$

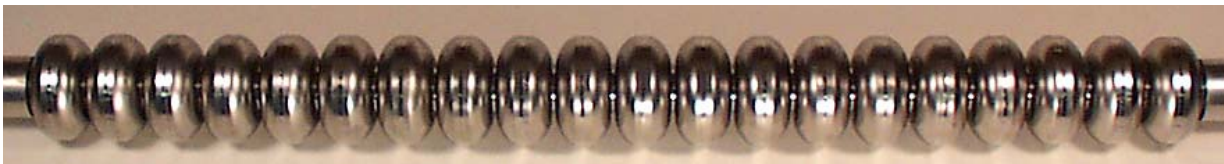
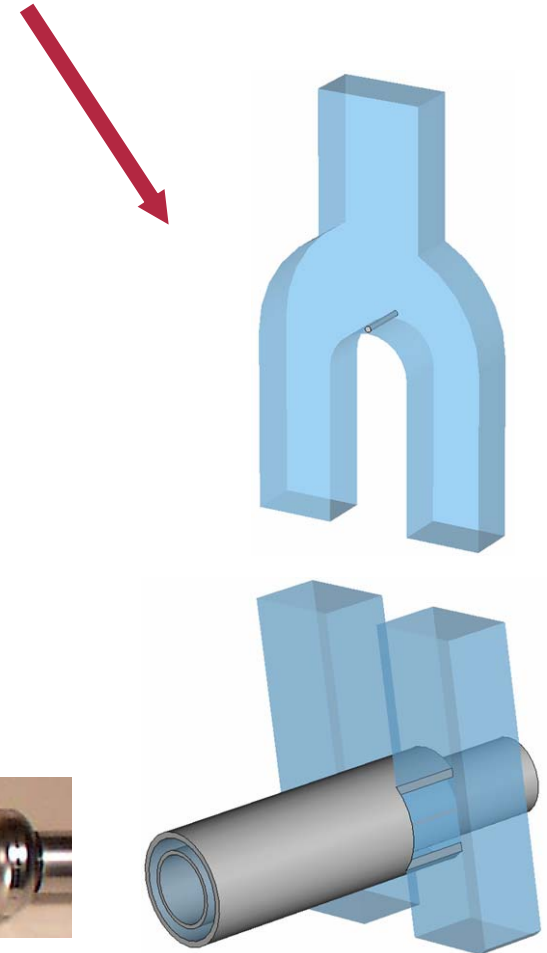
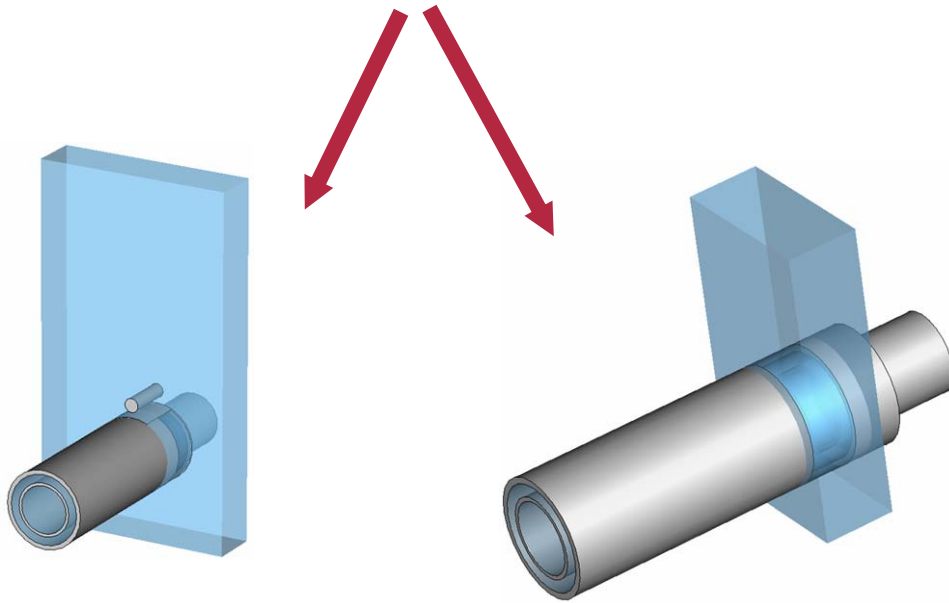


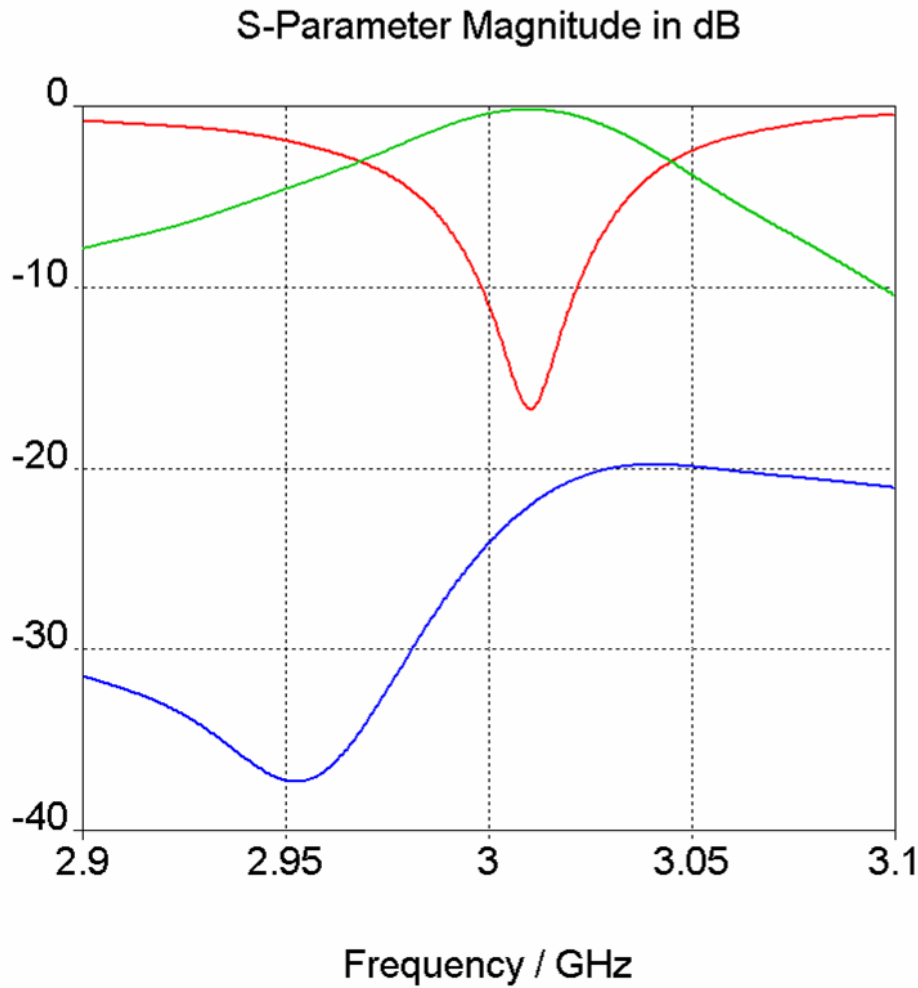
Increase of RF Input Power per
Cavity from 0.5 kW to 2 kW



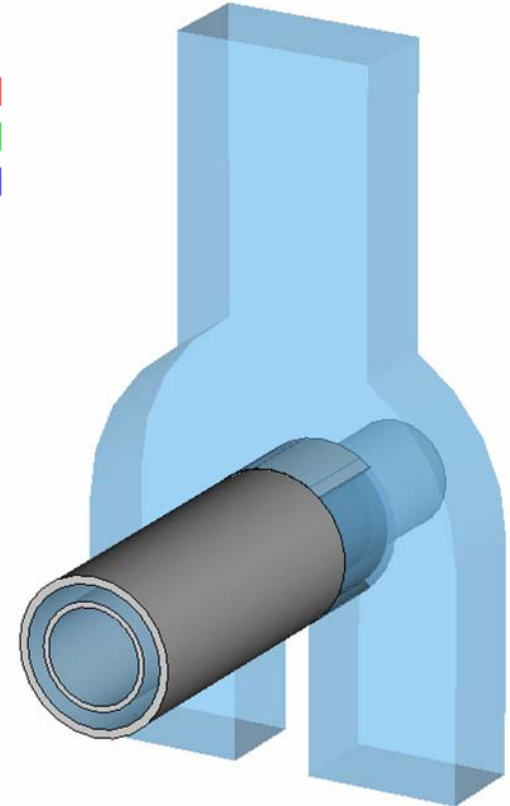
Single-Waveguide Coupler

Twin-Waveguide Coupler





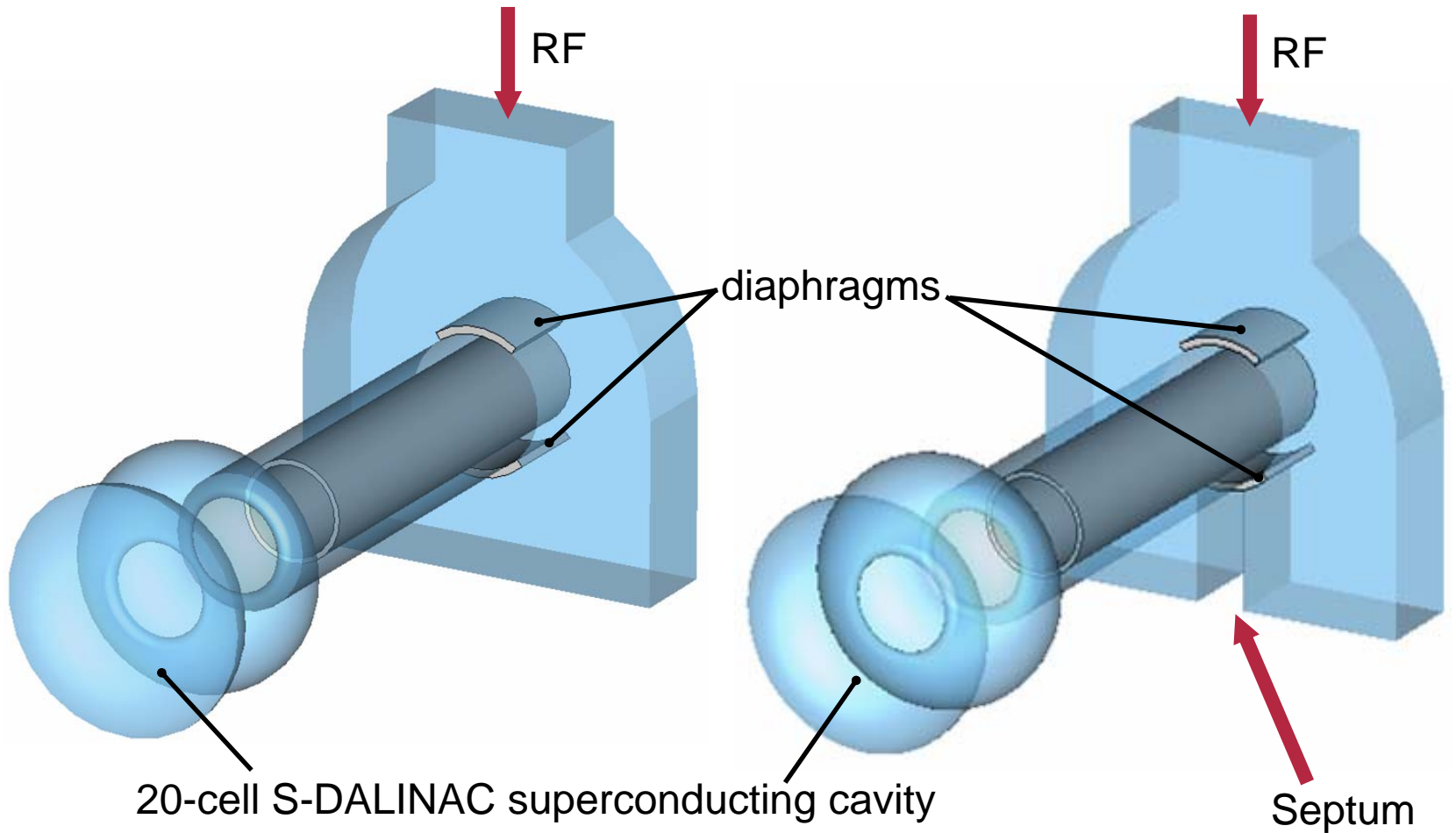
$S_{1(1),1(1)}$
 $S_{2(1),1(1)}$
 $S_{2(2),1(1)}$



CST MICROWAVE STUDIO®

Single-Waveguide Coupler

Twin-Waveguide Coupler



Details of the Optimized Design



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