



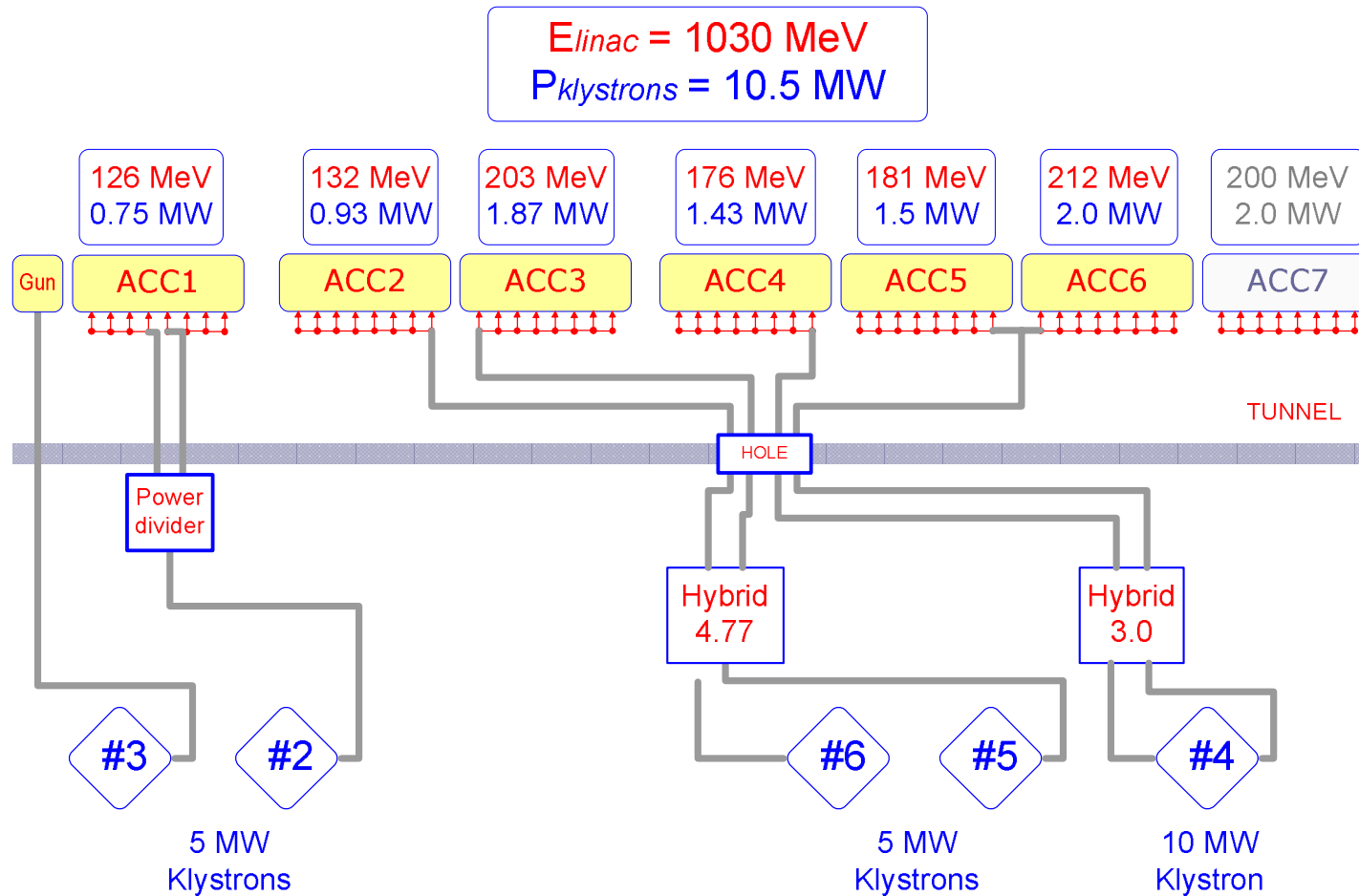
Operation experience with the FLASH RF waveguide distribution system at DESY THP079

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FLASH

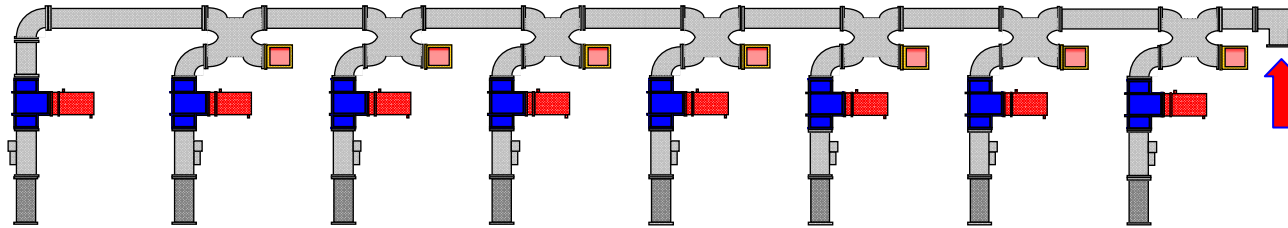
- VUVFEL: wavelength down to 6.5nm
- Linac energy: 1GeV
- Basis: TESLA Test Facility, TTF, since early 1990s
- 5 (6) RF stations
- 1 RF Gun: 800 μ s, ~3.5MW, ~40MV/m
- 48 superconducting cavities, some operated up to 1.3ms, 350kW, 32MV/m

FLASH RF System Overview

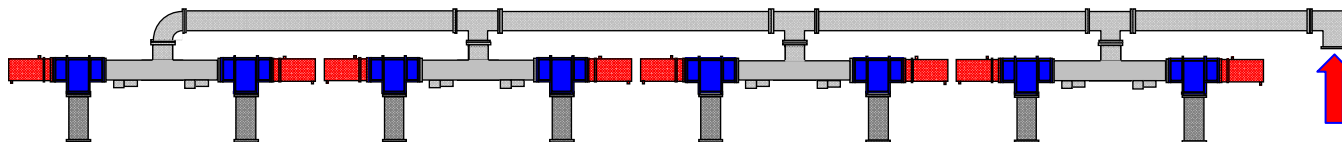


Module Waveguide Distributions

- Old FLASH waveguide distribution: Linear system



- New FLASH waveguide distribution: Combined system with shunt tees (linear system with binary cells)
- Advantages: less space, less parts, less weight, lower costs, adjustment for max. gradient possible



WR650 Waveguide Elements



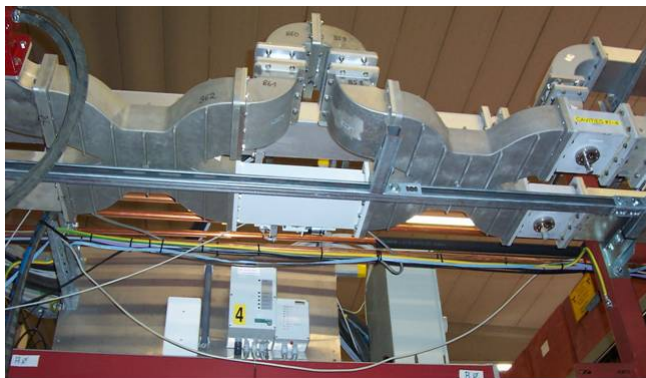
Waveguide distribution for ACC6 with phaseshifters integrated into shunt tees in FLASH tunnel



5MW four-port circulator installed in the tunnel before FLASH gun



400kW circulator and 3 stub tuner in one of branch of ACC1 waveguide distribution



Power divider for ACC1 consists of two 3dB hybrids and phaseshifter

THP079



2.4dB asymmetric shunt tee to split RF power between ACC5 and ACC6 in FLASH tunnel

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