



# R&D Status at DAFNE

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Global Design Effort



## Present R&D Activities

- Evaluation of the e-cloud density in the 3.2 and 6.4 km rings (T. Demma, Sunday 28, 14:25)
- Lattice design for the 3.2 km damping ring (S. G., Saturday 27, 14:25)
- Kickers operating performance: fast kickers with 12 ns total pulse duration have been used for 2 months for DAFNE injection during collider operation. Stability and reliability tests will continue on both DAFNE rings after the KLOE installation shutdown.
- Short kicker with 12 ns total pulse duration to be installed in ATF: ready for lab tests.
- Clearing electrodes installed in the DAFNE rings; ready for beam tests



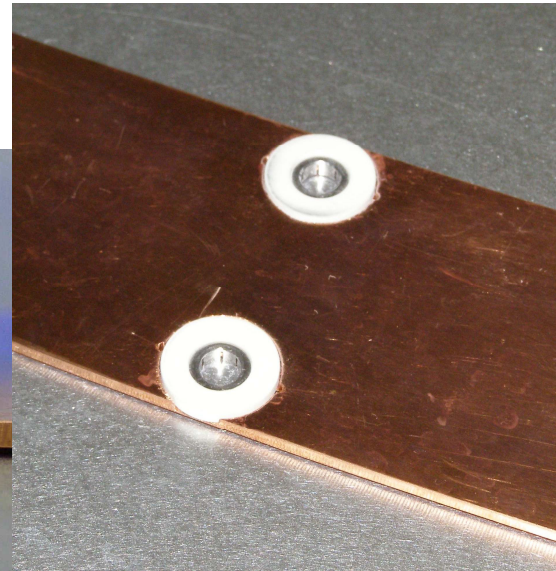
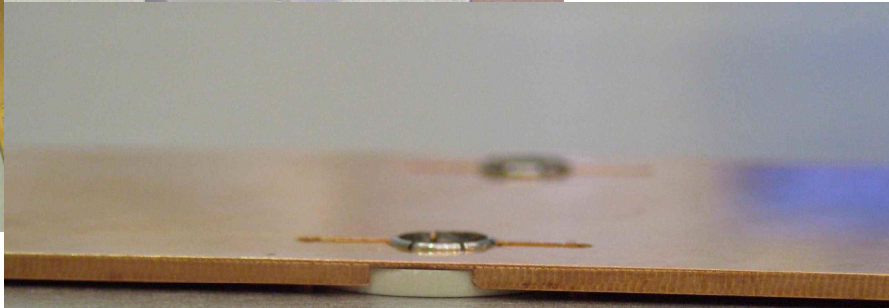
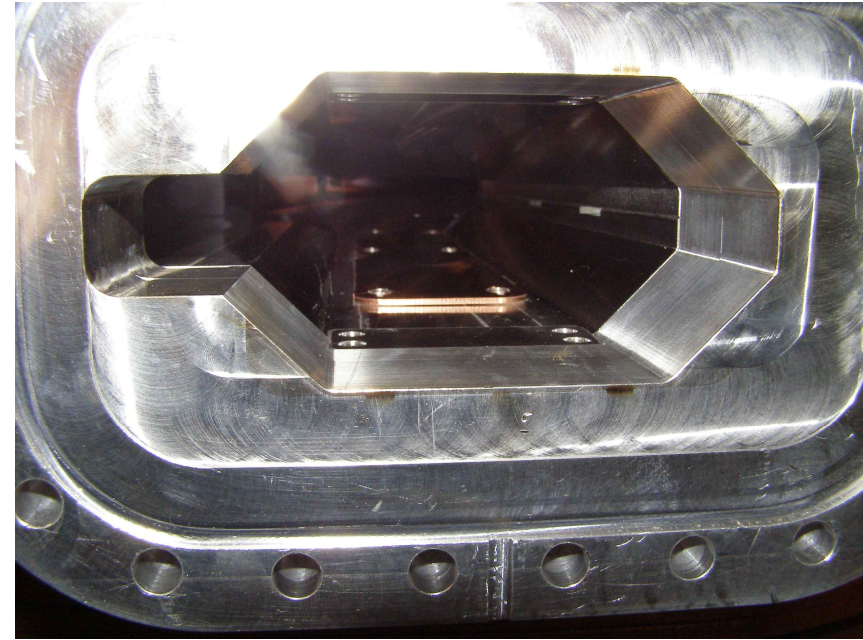
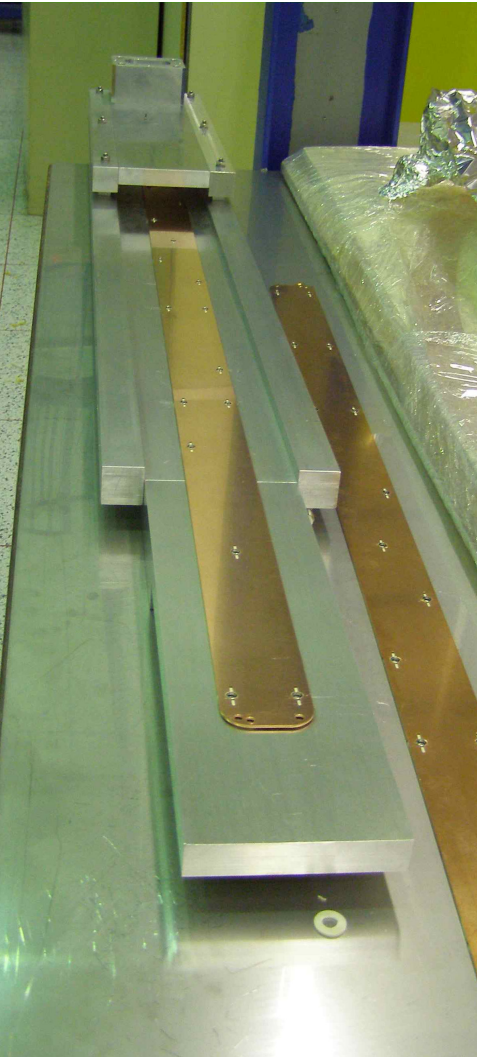
## Wiggler Poles Displaced

Wiggler poles modified in **all** the DAFNE wigglers in order to reduce nonlinear multipole terms affecting beam dynamics. Magnetic measurements in good agreement with simulations; beam tests at startup





# Electron Clearing Electrodes in dipoles and wigglers



Date

Event

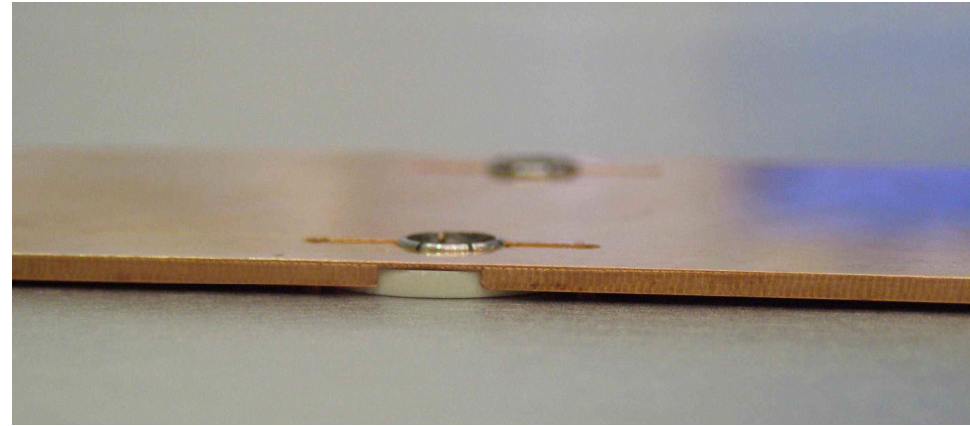


# Electron Clearing Electrodes

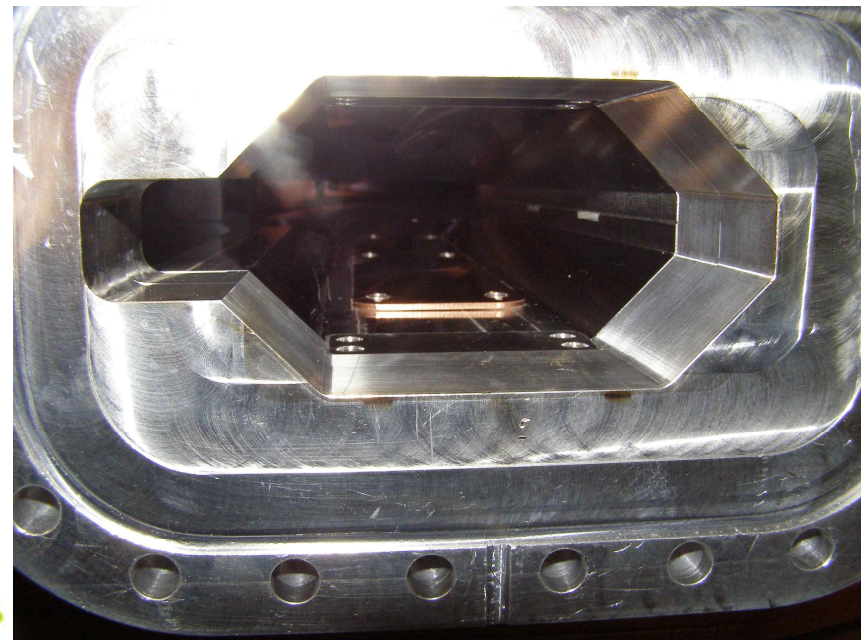
Thickness 1mm

Chamber distance 0.5mm

Tested against discharge



Clearing electrodes installed  
in the DAFNE rings; ready  
for beam tests



- Continue:
  - **E-cloud simulation studies**
  - **Lattice design and dynamic aperture optimization**
- Evaluate fast ion instability for 3.2 km ring
- Study fast feedback systems for low emittance rings (for the SuperB Project)
- End of spring DAFNE Startup:
  - **Beam tests of clearing electrodes**
  - **tests of wiggler beam dynamics**
  - **Kickers stability and reliability**

- Jie Gao raised the question of a more organized structure of the DR activity
- I would like to know your suggestions and comments
- Personally I think that there are not enough resources to set up a dedicated working group for each R&D subject
- The R&D activity localized at the test facility is already well organized and has a reference person:
  - **ATF test facility (Junji Urakawa)**
  - **CesrTA test facility (Mark Palmer)**
- Then we have
  - **E-CLOUD Working Group (Mauro Pivi)**
  - **ILC-CLIC Working Group (Mark Palmer, Yannis Papaphilippou)**



# DR WG Organization

- For the other activities I would suggest to have:
  - **a contact person for each lab to keep update information on the DR activity**
  - **and, possibly, a list of the DR activities going on and planned with a reference person for each**
- What do you think?