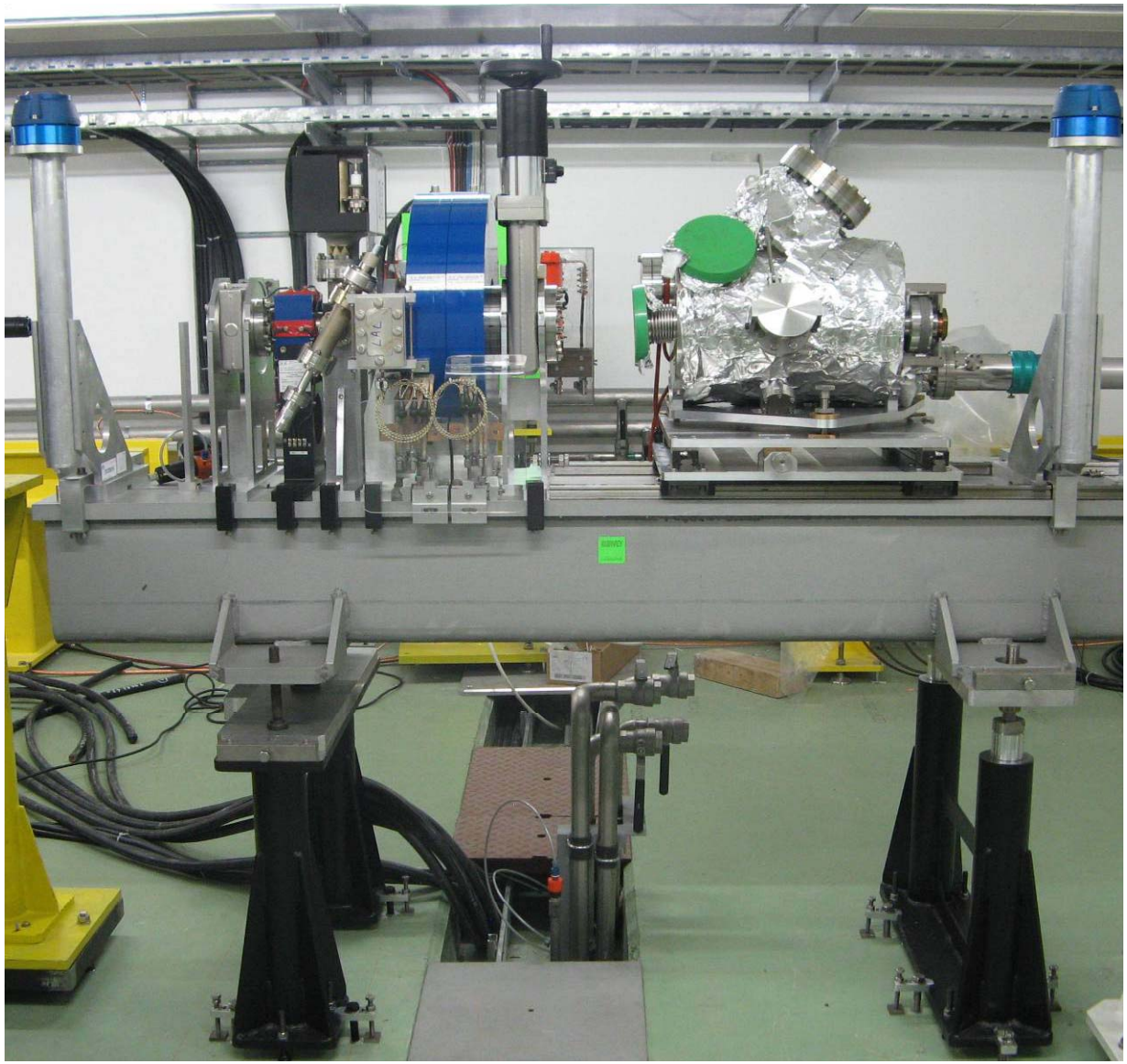
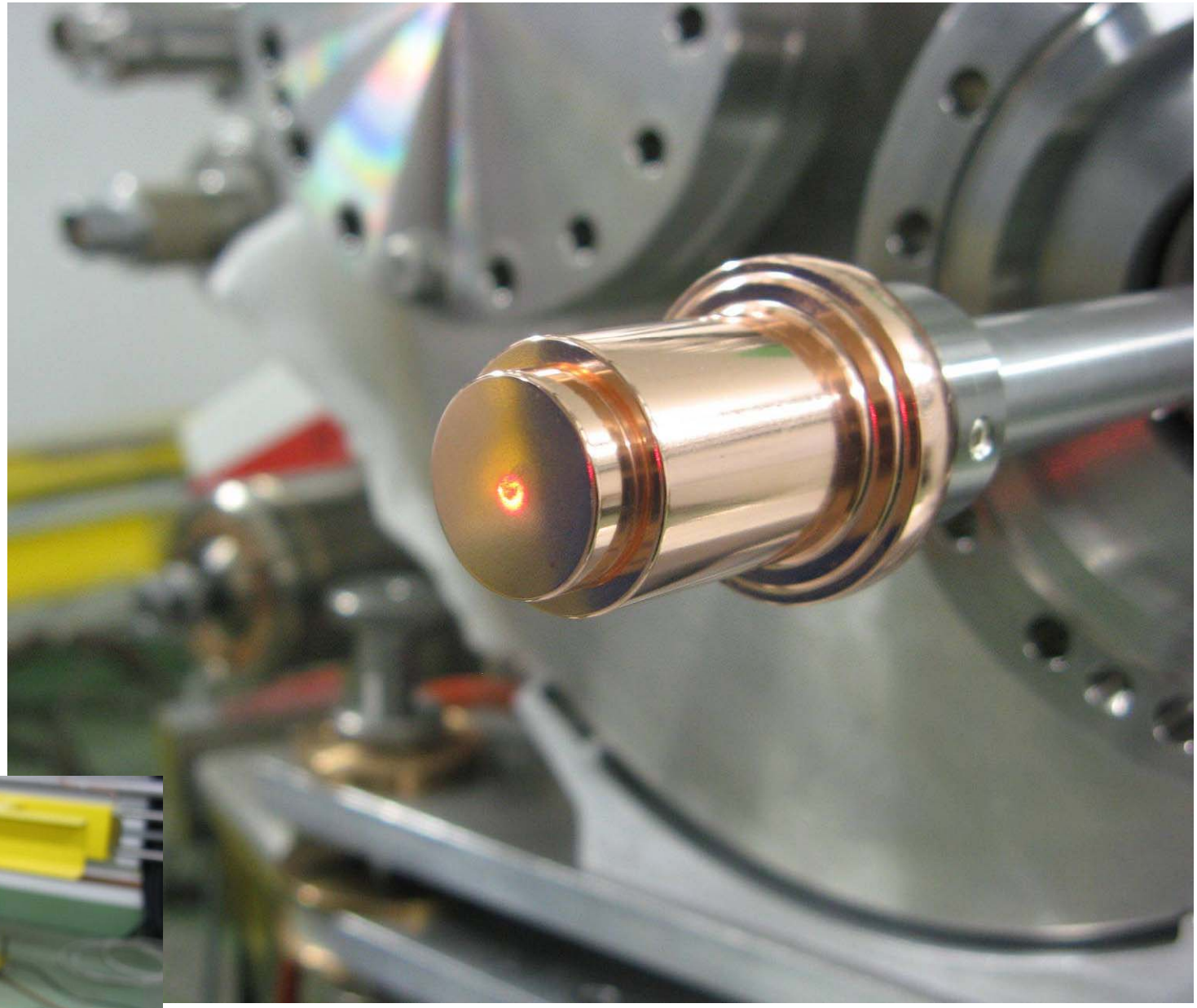
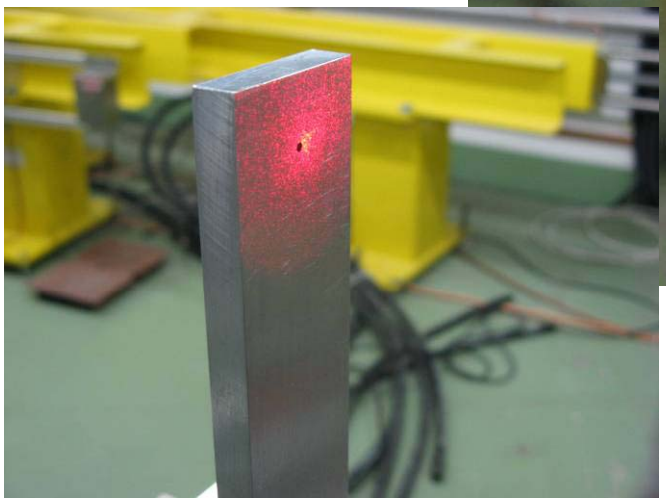
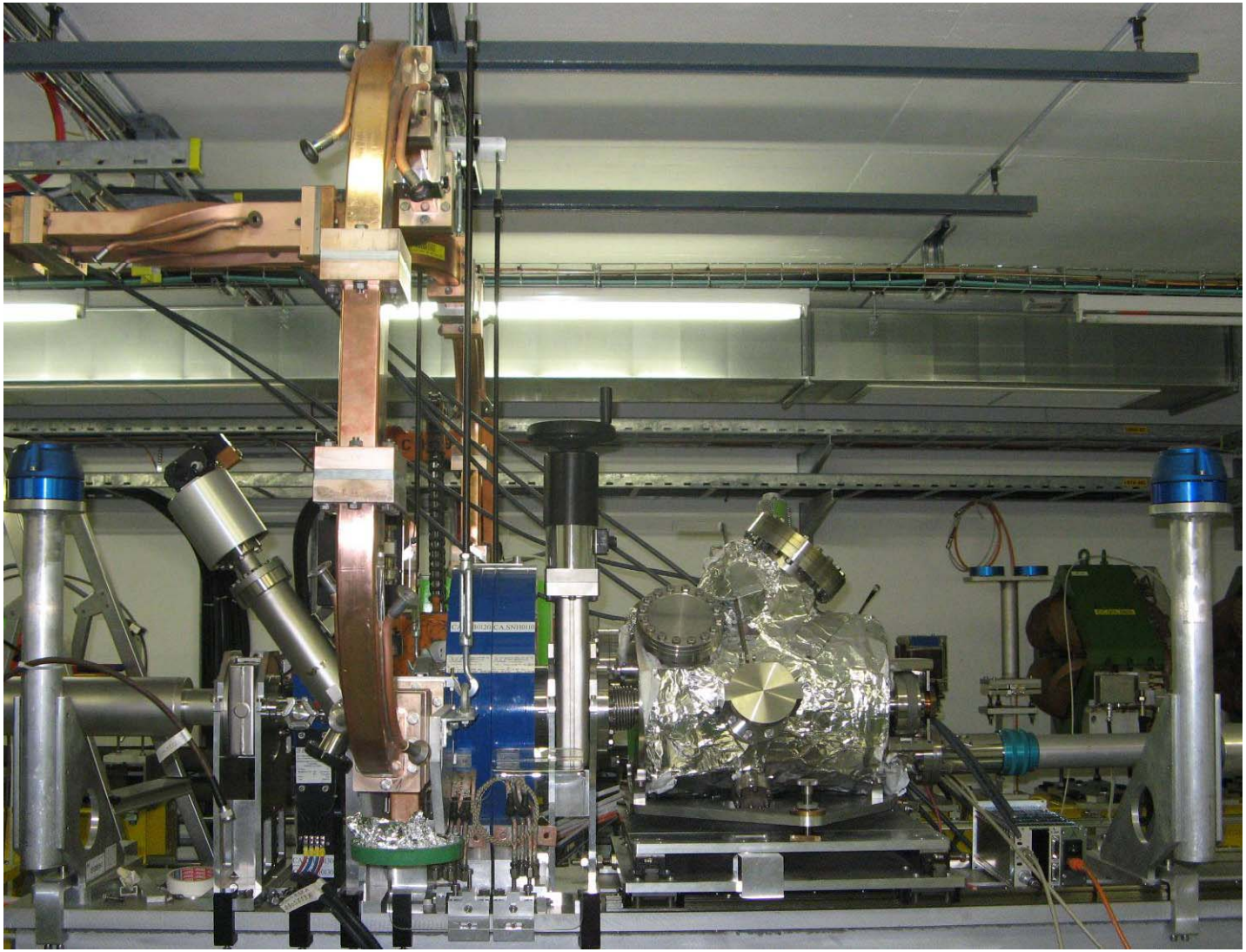


21 February 2008





29 February 2008



17 April 2008

Status of the CALIFES RF gun and photocathode preparation

- **installation completed** (LAL delivered gun, participated on installation at CERN incl. cathode preparation chamber – MERCI !)

- alignment of preparation chamber (photocathode plug) with gun: done

- vacuum system additions done (pneumatic valves to mobile pumping unit, vacuum measurement probes, N2 inlet valve, etc.)

- tests with (old!) electronics + software for heating of Cs + Te dispensers: done

next steps:

- installation of wave guides (part I under way), pumping + leak testing
- bake-out, leak testing
- installation of wave guides, part II
- RF commissioning with Cu plug in place
- final tests and photocathode production (to be done just before first beam !)

Conclusion:

well on track for beam end of July 2008

Status of the laser system (CERN part)

- no need to remind you of the long history of the PHIN laser,
  also to be used for the CALIFES probe beam

- remember: full-time person (fellow) at CERN since January 2008

- note: much progress has been made

10-14 March 2008:

In collaboration with G. Cheymol (CEA), it was found:

- IR : 4.3 μJ per μPulse (specs: 10 μJ)
- IR -> green : 13% conversion efficiency (specs: 35%)
- green -> UV: 4.3% conversion efficiency (specs: 35%)

  NOTE: the **beam-sizes** used are much smaller than specs
- stability at UV not acceptable

hypothesis to explain low conversion efficiency:

significant DC component in the beam (not just 10 ps pulses)

N.B. Various interventions (by companies) to improve hardware: now completed

laser system (CERN part) – cont.

next steps:

(1) **confirm hypothesis** “significant DC component in IR”
by measurements after 2nd amplifier (IR) (4-5 weeks)

(2) identify source of DC component (2-3 weeks)

(3) investigate cures, decide on action (**x** weeks)

(4) implement modifications (**xx** weeks)

CONCLUSION:

Difficult to predict today what status will be at the end of July 2008