

# CRYOGENIC SUPPORT TO OTHER EXPERIMENTS

- **TOTEM**: design, construction, test, operation
  - Cooling system based on heat pipes and pulse tubes
- **CAST**: upgrading (phase II), operation
- **COMPASS**: upgrading (new s.c. solenoid), operation
- **NA48**: uninterrupted (10 years) cryogenic operation of the liquid krypton calorimeter, upgrade of the supervision unit
- **EXPLORER**: technical assistance, liquid helium supply
- **ATRAP**: technical assistance, liquid helium supply
- **ASACUSA**: design of cryostats and integration of components for a new trap for antimatter
- **EURECA**: cryogenic design, laboratory tests
- **ICARUS and GERDA**: cryogenic advice
- **AMS**: interfaces, cryogens supply
- **ATLAS H8 and CMS RD5**: operation stopped in 2006

# CERN-WIDE SERVICES

- **Central Cryogenic Laboratory** (Cryolab)  
14 projects for PH in 2005
- **Liquid helium supply** via mobile dewars
  - Gas recovery, purification and liquefaction
  - 21 users, 9 in PH + Cryolab
- **Helium supply** via industrial contract
  - In 2005, 15 tons (120000 liters equivalent) for experiments
- **Liquid nitrogen supply** via industrial contract
  - In 2005, 2060 tons, 12 users in PH
- Management of the **Maintenance & Operation** contract for all CERN cryoplants

# Central Cryogenic Laboratory



## LHC: 12 projects

Development and validation of cryogenic components  
163 Tests for the qualification of welding machines, according to quality assurance requirements

*Picture 1 – measurement device of electrical resistance of bus bars at 4,2 K (65 tests / month during 2 years)*

## Experiences: 14 Projects

ATLAS, COMPASS, RD39, CAST, ASACUSA

*Picture 2 - Development and tests of 15 mm polypropylene windows, transparent to X rays (CAST)*

*Picture 3 - Cryocooler for RD39 Transient Current measurements*

## Other activities

Studies, advice, and instrumentation loan

Formation: 2 doctoral students, 1 technical student, 1 trainee

