

ISOLDE scientific coordinator's report

ISOLDE Collaboration Committee, 31 October 2005

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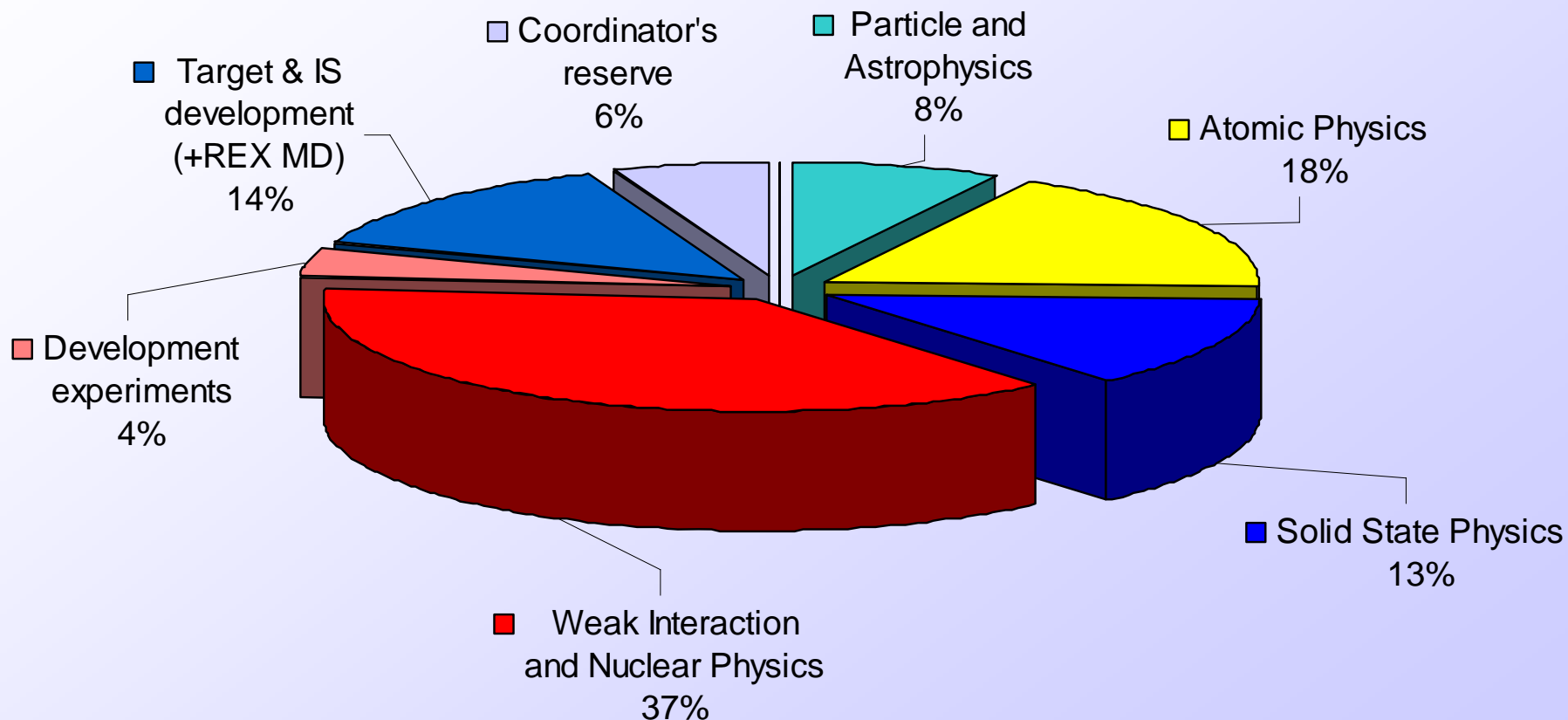
Statistics 2005

ISOLDE schedule 2005

- ✓ 183 days of operation
 - including 900 ms cycling tests from 24 May 2005
 - 2 weeks running
 - 2 weeks setup (a bit faster than scheduled)
 - REX available from May
 - Weeks 25 & 26 for changes at REX power supply controls
 - MD time for beam development
 - MINIBALL
 - available from 20 May to the end of the running period
 - HRS and GPS running in pull/push mode
 - HV problems in GPS
- ✓ Users requests for 2005: 500 shifts
 - Includes specific TISD requests
 - Does not include REX-MD time
 - 300 shifts require UC_x targets!
 - 200 shifts requested using RILIS!
 - 170 shifts for REX experiments!

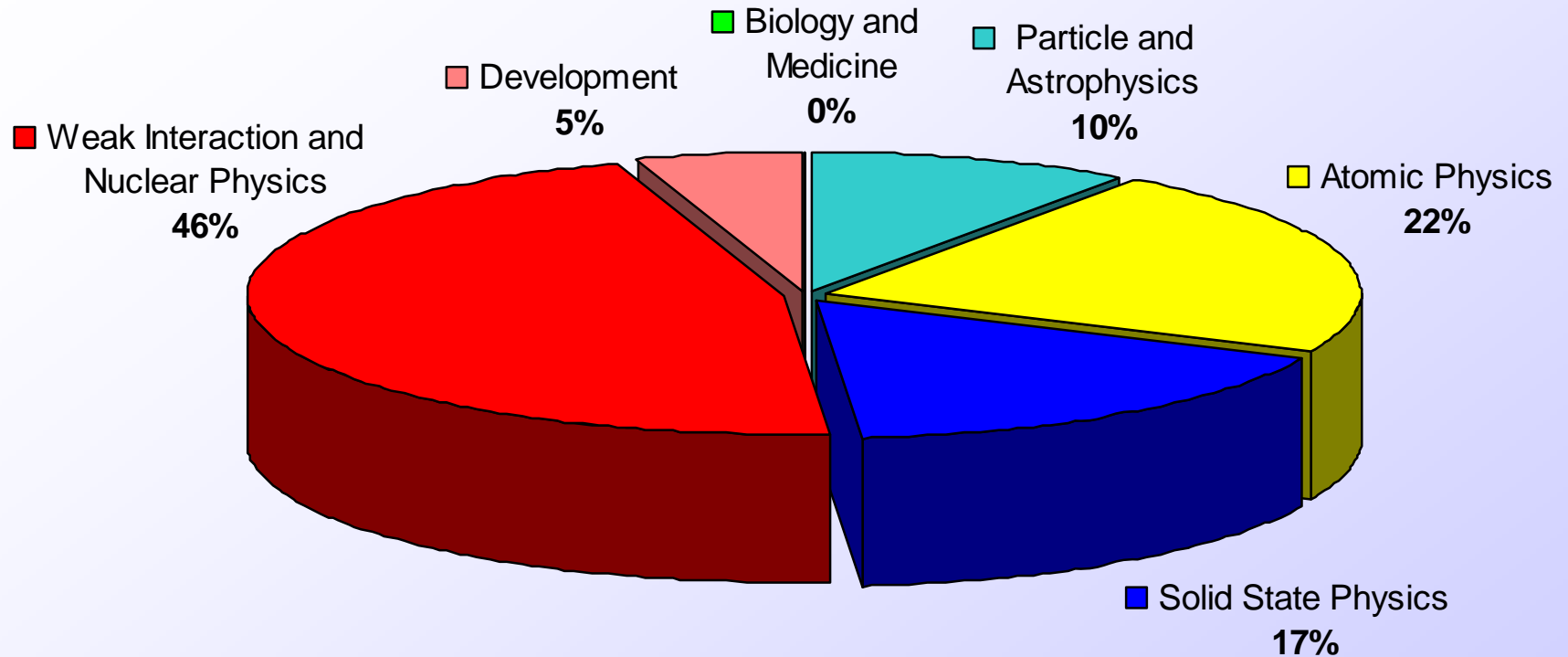
ISOLDE beam time summary 2005

✓ ISOLDE delivered **385 shifts!**



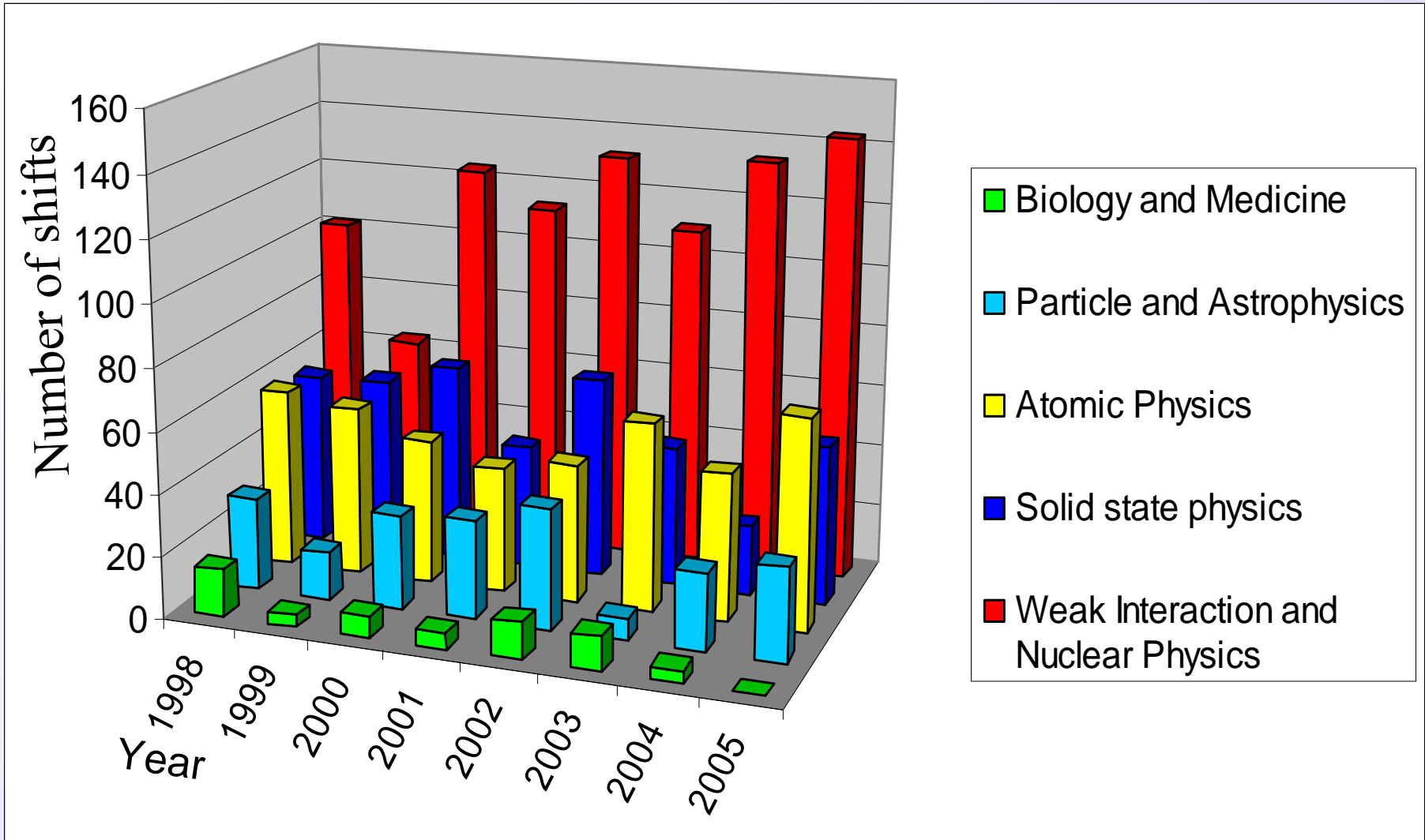
✓ 30 research projects (“experiments”)

ISOLDE beam time summary 2005



Nuclear Physics and Weak Interaction:	143.5 shifts
Atomic Physics:	68.5
Solid state Physics:	51.5
Particle and Astrophysics:	30.0
R&D experiments	15.0
Biology and Medicine:	0.0
	308.5

ISOLDE beam time summary 2005



✓ Delivered 107 shifts for experiments

→ 81 MINIBALL / 26 2nd beamline

→ 10 more RIB shifts for development

→ Stable beam, setup time ...

✓ Operation

→ Running up to 2.9 MeV/u

→ Allocated time for REX-MD

→ Reliable!

✓ Good success rate

→ Many consecutive successful runs!

→ One experiment cancelled + one run re-scheduled

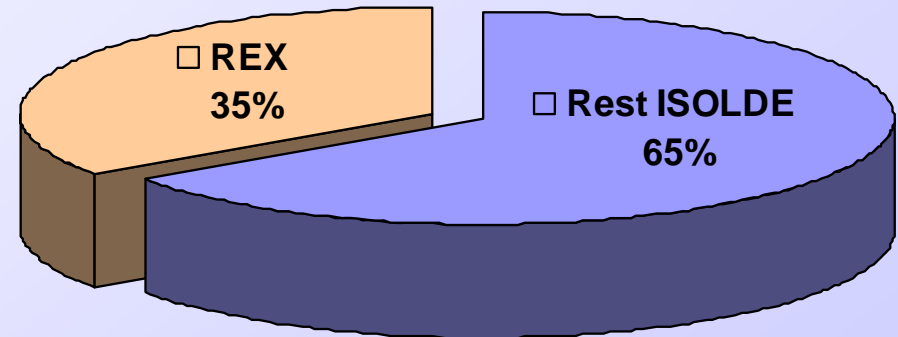
✓ New beams for Physics:

→ Isomeric **Cu** beams!: $^{68,69,70}\text{Cu}$

→ Heaviest beams to 2.8 MeV/u: ^{140}Xe , ^{142}Xe

→ ^{11}Be , ^{108}In , ^{92}Kr , ^{68}Ni ...

REX % from *INTC shifts* 2005



✓ Delivered 139 shifts for experiments

→ 16.5 more RIB shifts for setup, etc

→ Stable beam

→ Setup time

→ Offline runs & development

→ 2060 hours (257.5 shifts) of operation!

✓ Very reliable operation

✓ Beams:

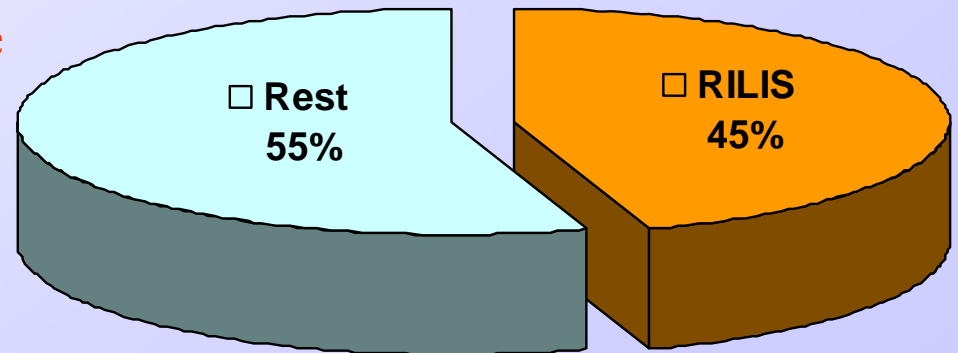
→ Sb scheme used online

→ Cu in-source isomers

→ Be, Mn, Zn, Cd ...

✓ Offline work

RILIS % from *INTC* shifts 2005



Development

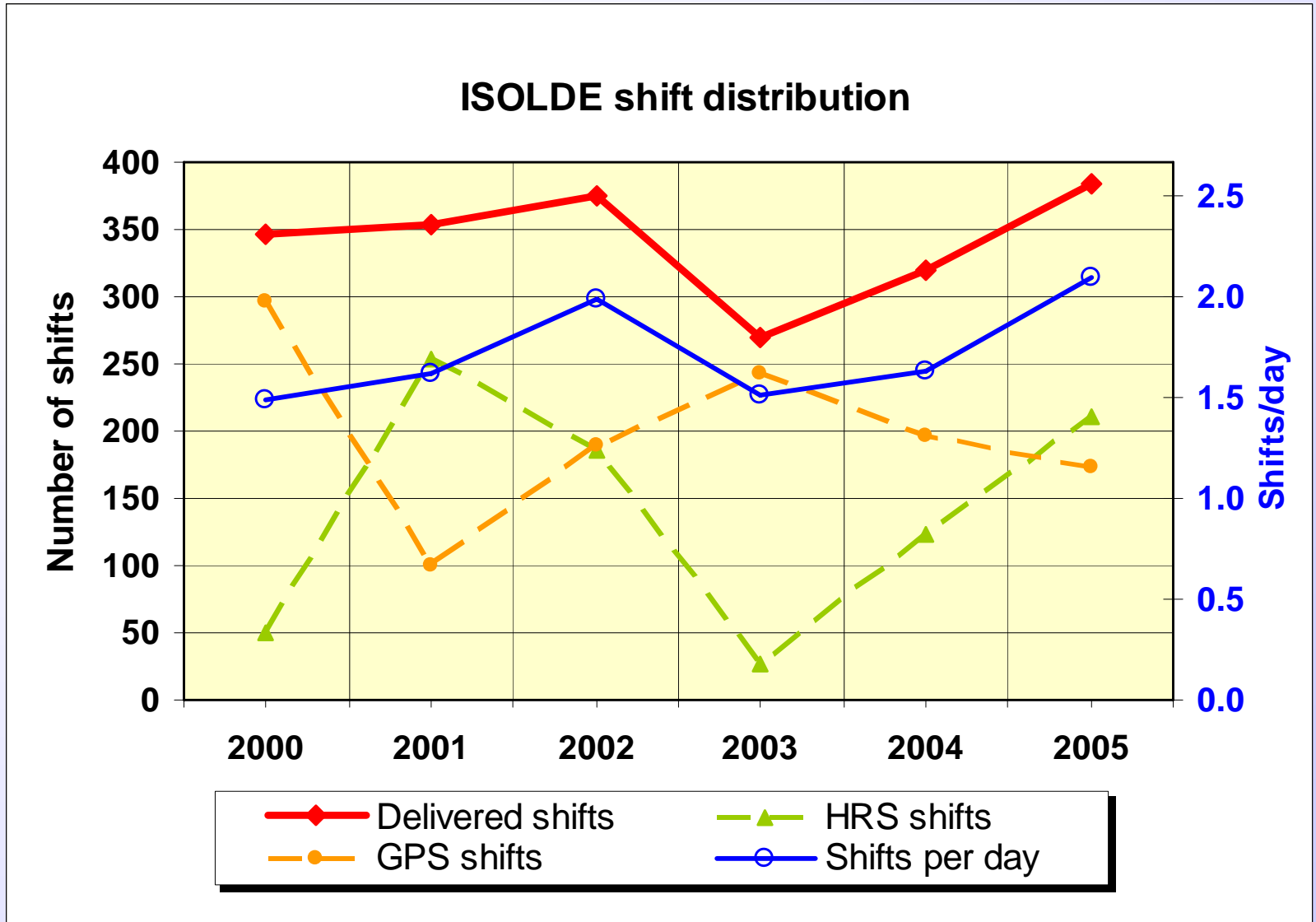
✓ Target & Ion Source Development for Physics!

- C-coated line for surface ionization
- Quartz transfer line
- Negative ion source (tests)
- Effusion-diffusion studies
- Test of materials (SiC)
- EURISOL ...

✓ High intensity tests

- 900 ms
 - 5 μA test
 - Useful for Physics
- Radiation limitations

Shift distribution over the years



Accelerator schedule 2006

✓ Approved 1 Sep 05

✓ ISOLDE dates:

→ Protons start 18 Apr

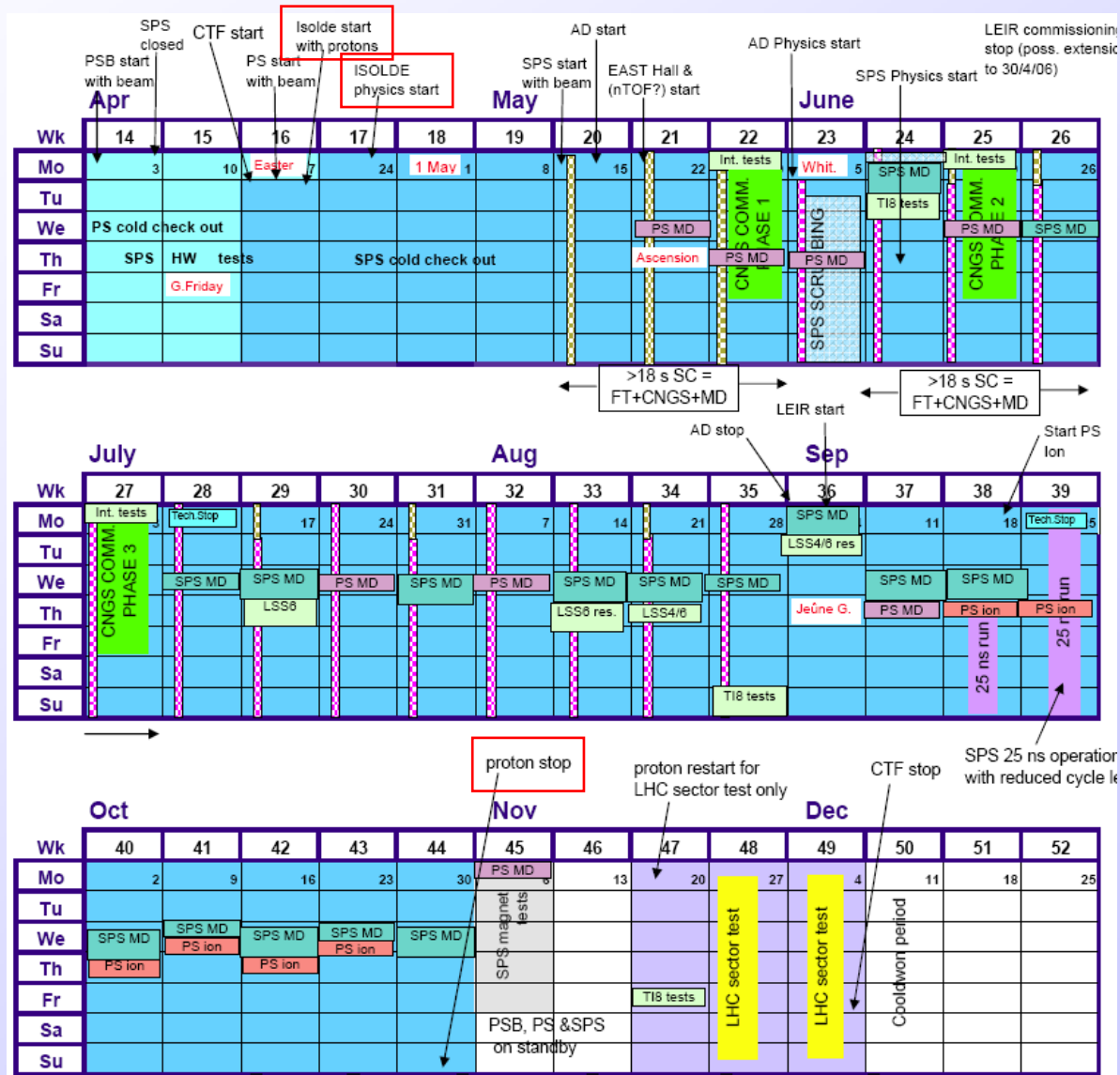
→ Physics start 24 Apr

→ Protons stop 6 Nov

i.e. 28 weeks for Physics

✓ 442.5 remaining shifts to be scheduled

✓ Need input from next INTC meetings!



Other issues

- ✓ ISOLDE Outreach
 - Brochure
- ✓ Shipment of radioactive sources
 - A. Improvement of standard procedures
 - B. Special legal agreements
- ✓ Solid state physics laboratory