

# ISOLDE scientific coordinator's report

ISCC meeting, November 12, 2007

A. Herlert, CERN PH-IS

Running period 2007

Safety at ISOLDE

PH group issues

# ISOLDE schedule 2007

## ISOLDE dates 2007:

protons started April 16  
 physics started April 20  
 protons stopped Nov. 12

→ 29.5 weeks  
 for physics

- 29 experiments (7 REX runs)
- 24 target units (3 old units)
- 12 UC<sub>x</sub> targets (2 old units)

Apr		May					Jun						
Wk	14	15	16	17	18	19	20	21	22	23	24	25	26
Mo	2	Easter 9	16	Tech stop 23	IS442 30 I68 I64	IS442 7	Stop PS 14	IS427 21	Whitsun 28	Tech stop 4	11	IS397 18	25
Tu				TISD	IS455	IS413	Stop PS		IS437	REX MD	IS453 IS443	IS441	IS390
We							Ascen					IS442 IS443	(IS442) I64
Th									IS413			IS434	IS413
Fr	G Friday				IS425	IS442	IS442 IS450 IS453	IS427	IS437				
Sa			TISD	IS455	IS442				IS448			IS397	
Su													

Jul			Aug					Sep					
Wk	27	28	29	30	31	32	33	34	35	36	37	38	39
Mo	2	9	IS439 16	23	30	6	IS414 13	20	TISD 27	IS400 3	10	IS397 17	24
Tu		IS451							Tech stop		IS424		IS410
We	PS MD		PS MD				PS MD	IS452	IS413				
Th			IS442	IS411	IS456	IS414				Jeune Gen			
Fr	IS451												
Sa		IS439	IS431 (coll)				IS452	IS442 (IS448)	IS445 (TISD)	IS424	IS397	IS409	IS417
Su													

Oct			Nov					Dec					
Wk	40	41	42	43	44	45	46	47	48	49	50	51	52
Mo	1	8	15	22	Tech stop 29	5	12	19	26	3	10	17	24
Tu	IS410												Christmas
We													
Th		PS MD											
Fr			ISCOOL installation		ISCOOL commissioning	ISCOOL							
Sa	IS425 (IS390)	IS433		IS454									
Su	(coll)												

Stop protons 2007

# Allocated shifts in 2007

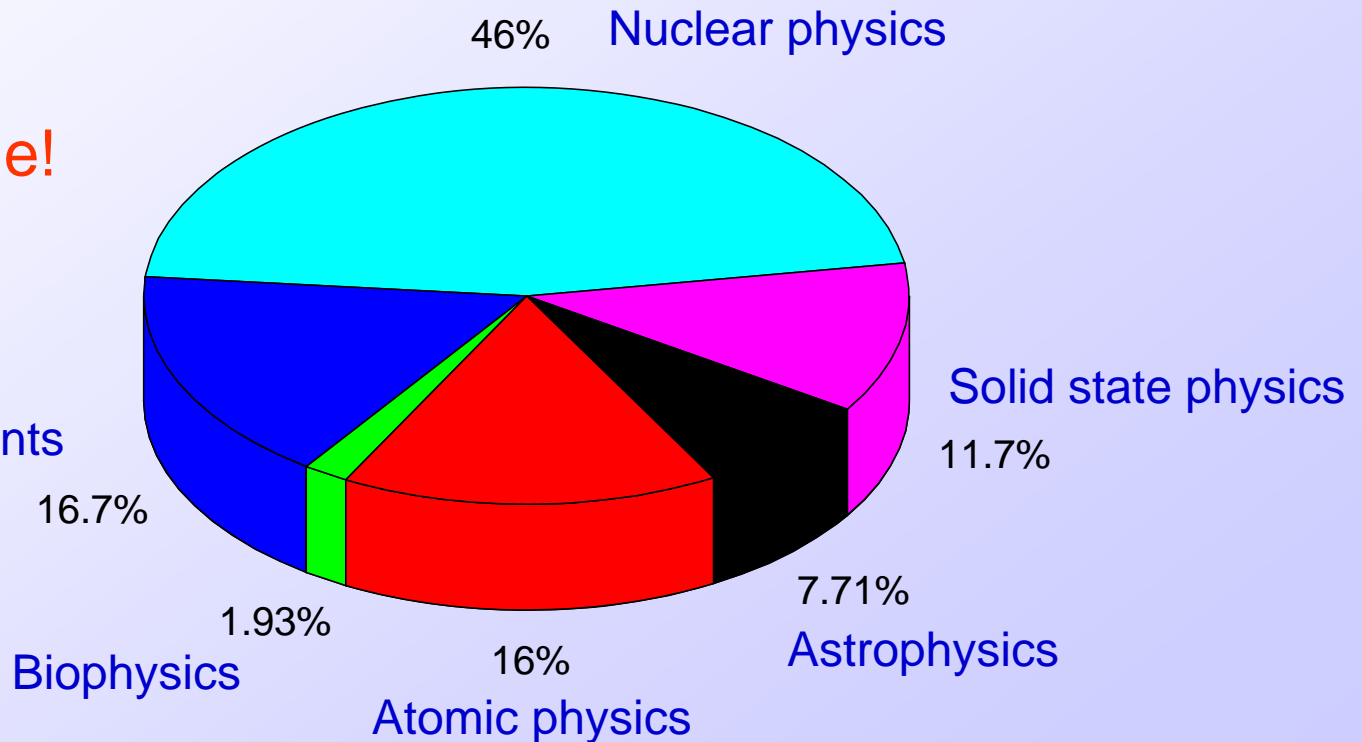
480 shifts requested in 2007

407 shifts scheduled for experiments

(in total 467 shifts, including TISD, ISCOOL, etc.,  
with 261 shifts on GPS and 206 on HRS)

RIB count  
not yet done!

REX MD, TISD  
exp. developments



# Main problems affecting physics

- ISOLDE/CERN controls (not working properly since startup, also affecting target heating and separator magnets)
- target HT (lots of tripping due to outgasing from target)
- REXTRAP (shortcut at trap electrodes and control software crash after NICE update)
- REX-LINAC scaling not working properly
- interventions for vacuum problems (especially during RFQ installation)
- accidental change of beam focus

# Main failures of physics program (I)

- Broken target/ion source

- CaO/MiniMono (#236) target/ion source failure stopped TISD run
- ZrO/HP (#349) ion-source short cut  
IS442, IS450, and IS453 cancelled (7 shifts)
- HfO/MiniMono (#363) overheating damaged ion source  
IS400, IS445, and test collections cancelled (13 shifts)
- UC<sub>x</sub>/q-n-RILIS(Cd) (#362) RILIS window "dirty"  
IS413 no Cd beam (8 shifts)

- Target performance

- UC<sub>x</sub>/RILIS(Ag) (#322) large contamination with In, Cs, Ba  
IS413 hampered to reach neutron rich Ag isotopes ( $A > 121$ ) (8 shifts)
- UC<sub>x</sub>/RILIS(Pb) (#347) very low Pb yield (also due to p-beam-intensity limitation)  
not enough yield for IS413 and IS448 (8 shifts)
- CaO/CP (#366) large <sup>35</sup>Cl contamination and REXTRAP cleaning not working  
IS433 hampered, no results (10 shifts)

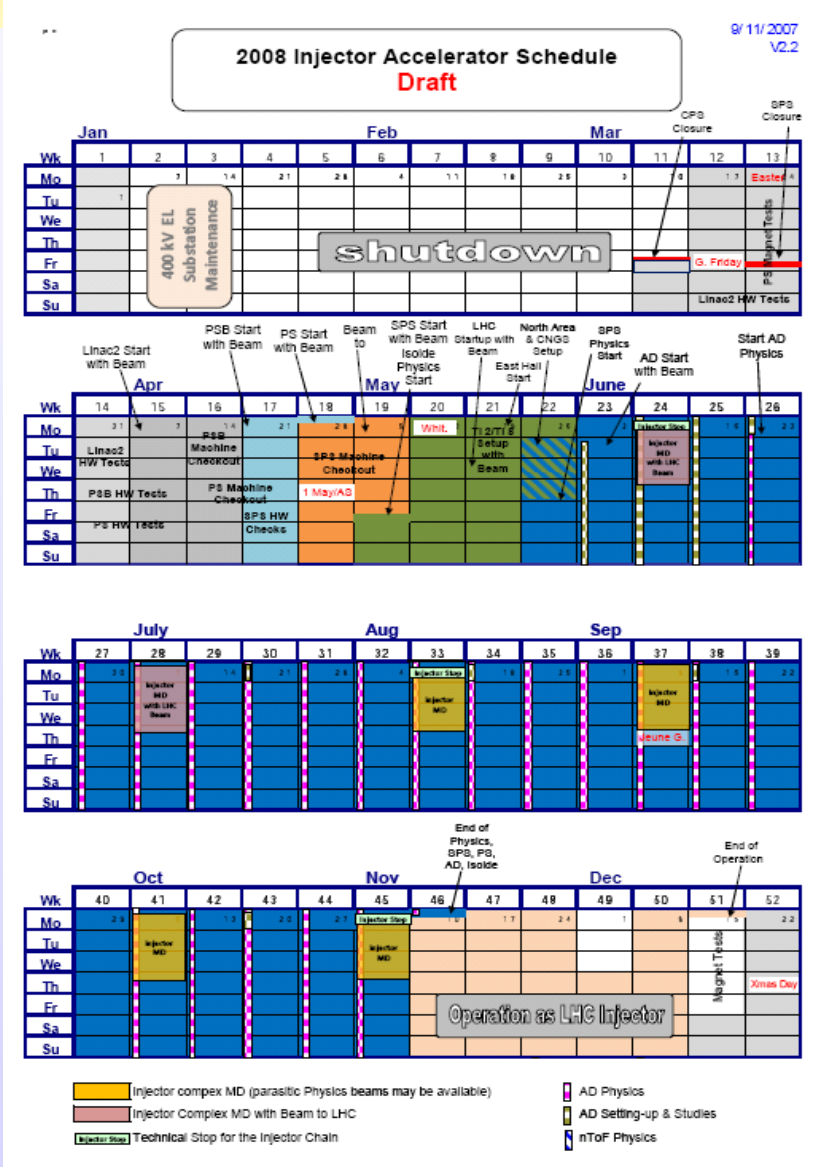
# Main failures of physics program (II)

- REX performance
  - IS451 too low yield for  $^{96}\text{Sr}^{19}\text{F}$  (LINAC scaling?)
  - IS411 ( $^{148}\text{Ba}$ ) and IS454 ( $^{30}\text{Mg}$ ) also hampered
- Limitation of p-beam intensity at GPS (max  $1\mu\text{A}$ )
  - general issue for all GPS runs
  - IS417 ( $^{11}\text{Li}$  beam) too low ion yield, managed to do physics due to higher efficiency of detector system
  - IS413 and IS448 (Pb beams) yield too low for physics

## ISOLDE dates

protons from PSB May 5  
 physics start ISOLDE May 9  
 protons stop November 10

(not confirmed yet - changes due to LHC operation possible)



## Building 115

- ISOLDE USERS workshop soon to be reinstalled (Nov. 15) (so far ISOLDE workshop in building 3 could be used)
- New Solid State Physics Lab soon ready and experiments from the ISOLDE hall and building 275 can be moved during the shutdown period

## Building 275

- First cleaning round done (separation walls installed for storage)
- Reorganization of storage space and lab space for experiments

## COMPLIS

- Removal of experiment ongoing --> free lab space in ISOLDE hall



# Safety at ISOLDE

## New safety structure

- GLIMOS (**Group Leader in Matters Of Safety**)  
ISOLDE GLIMOS (ISOLDE Physics Coordinator)  
Deputy GLIMOS (ISOLDE Physics group leader)
- Nominating Installation Supervisors for larger experimental installations (ISOLTRAP, COLLAPS, ASPIC, ...)

## Safety courses

- Basic safety course (**mandatory**)
- Laser safety course (will become mandatory ???)
- Radioprotection course (web based course for ISOLDE)
- Cryogenics safety course (recommended)
- Bridge crane used restricted (new rules for access)

# PH group issues (Karsten Riisager)

- Fellows and Associates
- Member states
- MoU
- EURONS / ENSA
- ...