

DESPEC/HISPEC

Valencia meeting 15th and 16th of June

Colegio Mayor Rector Peset



Welcome to Valencia!!!!

15th June

Start at 9.30 a.m.

1. Information about the PAC discussion and ranking, CORE review group, ground plan update, NUSTAR meeting board-spokespersons...(15 + 30) (B. Rubio and Z. Podolyak)(**HISPEC/DESPEC**)
2. Working group: implantation detector (T.Davinson)(15+30)(**DESPEC**)
3. Working group: Ge array (A. Algora) (15 + 30)(**DESPEC**)

Coffee

4. Background (A. Maj) (15 + 10)(**HISPEC/DESPEC**)
5. Working group: neutron detectors (D. Cano) (15 + 30)(**DESPEC**)
5. Timing (B. Rubio)(5)(**DESPEC**)
6. TAS (J.L. Tain) (10+10)(**DESPEC**)
7. Moments (D. Balabanski) (10+10)(**DESPEC**)

Lunch

8. Working group: simulation (M. Labiche)(10+10) (**HISPEC/DESPEC**)
9. Electronics and DAQ (Nyberg) (15 + 30) (**HISPEC/DESPEC**)
10. Common points with SPIRAL II (15 + 30) (**HISPEC/DESPEC**) (Marek Lewitowicz)
11. The MOU (Z. Podolyak) (10 + 10) (**HISPEC/DESPEC**)

Paella at the beach, starting from here at 19.30

16th June

Start at 9.30 a.m.

- 12. Energy buncher (H. Weick?)(10 + 20) (HISPEC/DESPEC)**
- 13. Beam identification detectors (Z. Podolyak and P.Sellin (10 + 10) (HISPEC/DESPEC)**
- 14. AGATA (W. Korten) (15 + 30)(HISPEC)**

Coffee

- 15. HYDE charged particle detectors for reaction studies (I. Martel) (10 + 20)(HISPEC)**
- 16. charged particle detectors for structure studies (M. Bentley)(10 + 20) (HISPEC)**

Lunch

- 17. plunger (A. Dewald)(10+ 10)(HISPEC)**
- 18. magnetic spectrometer (D. Ackermann)(10 + 30)(HISPEC)**
- 19. Future, next steps, next meeting (HISPEC/DESPEC)**
- 20. any other business (HISPEC/DESPEC)**

Topics to be clarified during the meeting besides the specific topics addressed
In the programme

- Space we need and area free around the experimental set-up
- Meters of electronic cables: front end electronics, the rest
- Possible common instrumentation inside FAIR
- Working groups inside FAIR (ASIC, Si, Neutron, Gamma...)
- Possible common instrumentation with SPIRAL II

Dates of the next SPIRAL 2 our workshops

4-5th July, 2005 « [Physics with low energy beams at SPIRAL2](#) »

Convenors : Bertram Blank and Oscar Naviliat-Cuncic

4-5-6th October, 2005 « [Future prospects for high resolution gamma spectroscopy at GANIL](#) »

Convenors : Bob Wadsworth and Wolfram Korten

The meeting will start with a one day EXOGAM users forum followed by a 2 day workshop

17-18th October « [Nuclear Astrophysics with SPIRAL2](#) »

Convenors : Karl-Heinz Langanke and Olivier Sorlin

19-20-21st October : « [SPIRAL2 Reactions](#) »

Convenors : Y. Blumenfeld and Wilton N. Catford

DESPEC

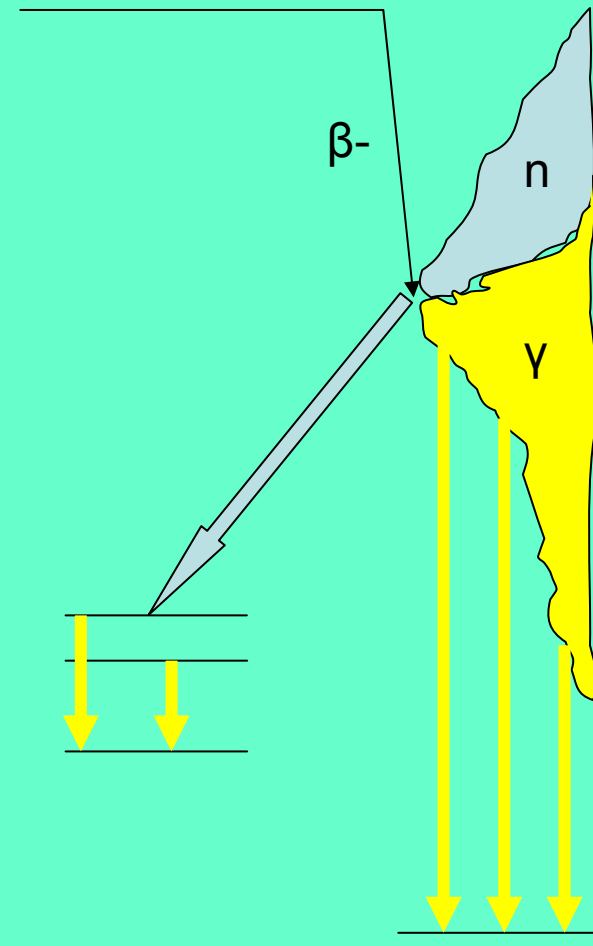
Two different categories
of experiments from the experimental
point of view

Those involving
charged particle
emission
“Beta decay”
(proton and alpha decay)

Those involving only
Gammas or neutrons
“Isomeric decay”

Beta decay

Neutron rich

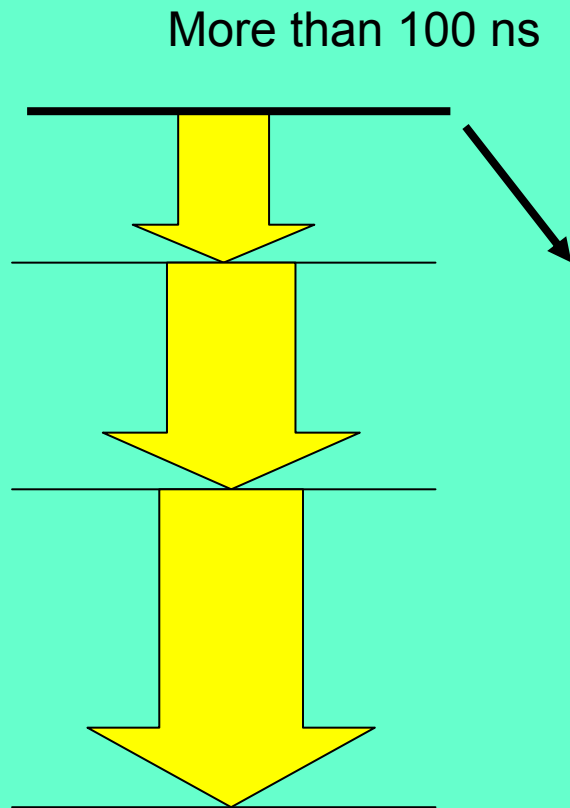


What do we want to measure?

- Implanted ion
- Gammas of high energy and gamma intensity very fragmented sometimes
- Neutrons (neutron spectroscopy) in coincidence with gammas

Big advantage: we can always tag with the betas!!!

Isomeric Decay



n or p, 2p...

Low multiplicity γ

Low energy γ

Possible n or p emission

Two major difficulties:

NO implantation **TAGGING**

Low energy **gamma flash** and blinding of the detectors

In summary

Production of exotic beams at the Super-FRS

Typical energy 70 MeV/A

Implantation in an active DSSD system, sensitive to the implanted ions

And subsequent **charged particle decays** (ions, β , p, α)

Gamma detection in a compact Ge array, complemented with

Total Absorption Spectroscopy

Neutron detection in coincidence with gammas

Half live determination with fast timing array

Electromagnetic moments of isomeric states

Cost of DESPEC in M€

DSSD	0.975
DESPEC high resolution gamma det.	4.9
Neutron detectors	1.064
Total absorption spectrometer	0.5
Fast timing	0.47
Isomeric moments	0.15
Total	8.06

Extra man power Manyears

12
32
9
16
4
8
81

Core General Comments

There are four comments, which apply to almost all the experiments:

1. The cost for fire safety of electronic racks should be included
2. All cost sums should be rounded to full kEuro.
3. Please make a statement, in case you have received offers fully corresponding to your requirements, which contradict our estimates.
4. The discussions on manpower at the CORE meeting were somewhat confusing. A clear statement is needed on: - what is the manpower available now – what is the amount of manpower missing

Core Specific Comments

HISPEC/DESPEC specific comments

- The cost for the complete push-pull mechanism has to be included i.e. rails including installation, hydraulic pistons, cable chains
- The cost for installation, scaffolding, jigs and fixtures for detector assembly and maintenance as well as survey and long cabling (1.5 Euro/m/cable) and cable trays has to be added
 - The cost for local safety installations has to be added
 - Cost for a slow control system have to be included