

***Superbeam
& Neutrino Factory:
European Possibilities***

Helmut Haseroth for Rob Edgecock

FP6 Design Studies

ESGARD meeting 3rd September – from Roy Aleksan

- Originally: 3 DS calls, November 2003, 2004, 2005
- Now: 0
- Two reasons:
 - want to fund additional projects from round 1
70MEUR → 90MEUR
 - big budget reduction (next I3: 60M → 140M)
- Left 30-40MEUR for round 2
- Decided: it isn't worth holding another DS for this!
- Possibility had been known for some time
- RA asked Brussels if new JRA in CARE possible

Answer: No!

FP6 Design Study

WP	Title	Responsible	Summary
1	Management	Edgecock	
	Proton Driver	Garoby	
2	Targetry	Bennett	JRA
3	Collection	Campagne	JRA
4	MICE	Blondel	JRA
5	FFAGs	Meot	NEST, etc
6	Machine	Haseroth	?
7	Physics and detectors	Mezzetto Strolin	New detector I3

Possibilities

- Wait until FP7: call 2006, 2007,
- Submit Neutrino Factory I3:
 - call 4th November
 - 140MEUR
 - RA, DP: no chance for accelerator R&D proposal
- Do what we can with individual WPs:
 - Neutrino detector I3
 - Non-scaling FFAG PoP NEST
 - Others?

Possibilities

Detector R&D I3

- CARE is accelerator R&D I3
- Detector R&D/Neutrino I3 is also possible!
- In ESGARD:
 - Neutrino detectors
 - LHC upgrade
 - linear collider
- Seems too complex & impossible to organise in time
- Candidates should contact Roy!
- Is a Neutrino Detector R&D I3 possible?

e-model FFAG

Several possible candidate programmes:

- New and Emerging Science and Technology
 - Insight
 - Pathfinder
 - Adventure
- **Computing projects** are 'visionary' research projects, aiming to create and/or develop new opportunities for science and technology
- **Waste transmutation** which could have a very high potential payoff in the long term, in particular in new interdisciplinary areas. They are identified by their characteristics of significant novelty, very high ambition and
- **Already funding BNCI**
- **Clearly something EC is interested in funding**
- Next call.....6 months?????

Others.....

- Targets and collector would work as 1 or 2 JRAs
- Need to be part of an I3!
- Could they be part of a Neutrino Detector I3???
- ® Upgraded CERN Neutrino Facility I3???
- Would need careful wording, but might work?
- MICE: could make a JRA from components:
 - RF with windows/foils
 - RF in magnetic fields
- But where?
- Another possibility: high T_c SC focus coils NEST
 - not MICE
 - probably already funded
- Design and engineering FS:
 - no idea!!!

So, what to do?

In my (very humble) opinion, we should.....

- Prepare a non-scaling electron FFAG NEST Adventure
 - check when/if next call
- Investigate urgently Detector/Neutrino Facility I3
 - include target/collector JRAs
 - who will do this?



New comments by Rob Edgecock

- We are going to start a DS anyway, trying to use alternative sources of funding to do what we wanted to do with FP6 funds. There are (at least) 3 of these (see below).

A DS proposal in FP7 remains a possibility, depending on how we get on with the alternatives.



New comments by Rob Edgecock



- 1) The first alternative is another FP6 programme. In particular, we plan to submit bids for the electron pop non-scaling FFAG and MICE to the next NEST call, if there is one.
- 2) The second is existing or new funding from outside CERN. The former means the funding in the UK, Switzerland, Italy, CEA, etc. The latter means attracting new labs. This has happened (a bit) with HIPPI, is happening with targets and will happen with FFAGs (there are, for example, many EU labs that don't do HEP, but are interested in proton therapy). We will also exploit the overlap with EURISOL in drivers, targets and FFAGs.
- 3) Extract more resources, in particular people, from CERN.