



SUMMARY OF THE EGAN SURVEY ON DETECTOR MAINTENANCE AND REPAIR CAPABILITIES

Hilde De Witte, May 2012
for EGAN, an ENSAR network

The survey was sent to 9 institutes: GANIL, GSI, IKP-Univ. Koeln, IPN-Orsay, JYFL, LNL, T.U.Muenchen and Univ. Liverpool. An additional reply was given by the University of Warsaw and Daresbury.

Below a summary of the answers is given for each question.

Which type of detectors is handled in your lab?

Single crystal detectors, types: Canberra (IKS, IPNO), Ortec (LNL, IPNO), EUROGAM Phase 1 tapered coaxial (JYFL), not specified (Daresbury, Warsaw, IKP, TUM, GSI, GANIL), Tessa (UoL), Poptop (UoL),

Miniball detectors: IKP, IKS, TUM, GSI

Agata detectors: IKP, LNL, UoL, GSI

Others:

- LNL: Euroball
- GANIL: Segmented clovers
- INPO: Clover OSCAR
- JYFL: Eurogam clover
- GSI: Clover, stacked planar

Number of people currently involved in the different maintenance and repair activities:

	<i>IKP</i>	<i>IKS</i>	<i>LNL</i>	<i>HILUW</i>	<i>GANIL</i>	<i>IPNO</i>	<i>UoL</i>	<i>JYFL</i>	<i>TUM</i>	<i>DL</i>	<i>GSI</i>
<i>Testing</i>	3	2	1	3	2	3	2	8	3	5	1-2
<i>Pumping</i>	3	2	1	2	2	3	2	8	3	5	1-2
<i>Warm el.</i>	3	1	1	2	2	3	2	5	1	7	1
<i>Cold el.</i>	2	1	1	2	2	2	2	5	0	7	1
<i>Replace crystal</i>	2	1	0	0	0	0	2	0	0	3	
<i>el. repair</i>	2	0	0	1	2	1	1	5	0	7	1
<i>Cryostat heating</i>	3	0	0	2	0	3	2	8	0	5	1
<i>Annealing</i>	3	0	1	2	2	3	2	8	0	4	1

Could technical support potentially be supplied on site?

Yes for all but GANIL and TUM.

Are new people being trained for repair of detectors on a regular basis? Briefly describe the training strategy and capabilities in your lab.

IKP

First short introduction course into detector technology and electronics by experts. Second extended supervised hands on training over several days up to two weeks. Trainee should be able to perform standard diagnosis on detectors (signals, noise, energy resolution diagnostics), repair of broken detector components including cold and warm electronics, cabling, vacuum leaks, HF noise, mechanical and thermal properties.

IKS

- Hands-on training for PhD students on operation and testing of detectors
- Training on repairs is limited to thermal cycle and pumping

LNL

We have an interdisciplinary team of R&D in HPGe. The R&D team has capabilities to make simple planar HPGe. We are working on passivation and protection techniques alternatives to encapsulation.

Hiluw

We provide trainings for our employees in Canberra factory as well as in cooperating laboratories like Physics Department at University of Jyvaskyla (Finland) and National Centre for Nuclear Research (Poland).

We use our experience in training to provide a general detector training for students visiting our laboratory during nuclear physics workshops every year.

Ganil

IPNO

No training on repair

UoL

2 new people are being trained on the AGATA system but the training is not on a regular basis

JYFL

Post-graduate students are trained for the JUROGAM Ge-detector maintenance and testing. On-site technicians support is available of cold/warm electronics repair. JYFL detector lab. is capable to repair and maintain the JUROGAM Ge detectors apart from the crystal repair/processing. Clean room facilities are available for cold electronics repair.

TUM

no, E12 is not focused on Germanium maintenance

Daresbury

No, existing staff only

GSI

On request colleagues from outside are being trained