

Status of Kurchatov detectors

- performance during HdMo
- details of hand-over
- current status/performance

O. Chkvorets, MPI-K



Detectors Parameters

| | ANG1 | ANG2 | ANG3 | ANG4 | ANG5 |
|-----------------------|-------|-------|-------|-------|-------|
| Total mass [kg] | 0.980 | 2.906 | 2.446 | 2.400 | 2.781 |
| Active mass [kg] | 0.920 | 2.758 | 2.324 | 2.295 | 2.666 |
| Enrichment Ge76, % | 85.9 | 86.6 | 88.3 | 86.3 | 85.6 |

Kurchatov detectors hand over

- 1) Detectors was taken from the upper-very warm electronics room of HdMo. Experiment.
- 2) Detector 'ANG1' was not filled with LN2 since June, 2004 and was warm.
- 4) After week of cool down all detectors was checked on leakage current and resolution.
- 5) Detector ANG1 could not keep HV, and was was wet because of low vacuum

September, 29 2004, LUNA1 room



November, 2004, GERDA(Lens) room



Detectors Energy Resolution, keV

$E = 2614 \text{ keV}$

| | ANG1 | ANG2 | ANG3 | ANG4 | ANG5 |
|----------------------|------------|--------------------|------|------------|------|
| HdMo Setup | 3.0 | 3.4 | 3.0 | 3.5 | 3.4 |
| GERDA Lab, Jan.05 | <u>3.9</u> | 2.7 | 3.0 | <u>2.8</u> | 3.1 |
| Notes | Warm Up | PA gain 'jumps' | | | |

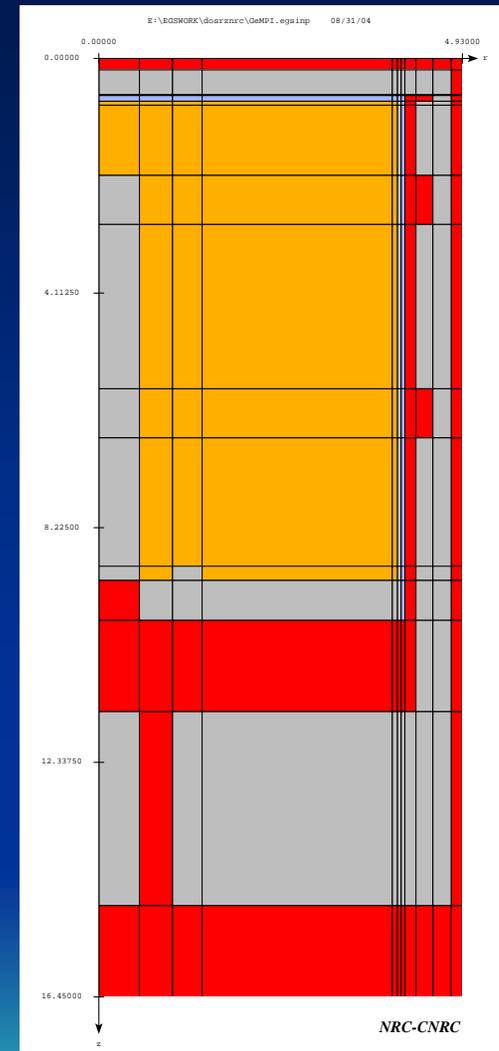
Propose for additional measurements with old detectors

- 1) Co-60 source - absolute efficiency.
- 2) Ba-133 source - dead layer thickness estimation.
- 3) Ra-226 source - summing effect in the 2000 keV area and detailed efficiency calibration.



GeMPI-II Dead Layer Estimation

- 1) EGS4 Monte Carlo simulation
- 2) Detailed drawings of top part of detector assembling
- 3) Measurements with the thin Ba-133 source



The ratio of 80 and 356 keV lines of Ba-133 vs.
the thickness of the GeMPI-II dead layer,
simulation and measurements

