

# news from the editorial board

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- ◆ people
  - tell me changes for updates of **author list**  
(common funds, publications, grant requests,..)
- ◆ conferences: 22 talks and 5 poster this year,  
4 more → look on webpage (also for summer schools)  
we collect also local confs. for completeness

**submit to EB 2 weeks before deadline !!**

**forward also final version of presentations/proceedings**

use `\usepackage{lineno}` `\linenumbers` help

**communication**

- ◆ tables of parameters
- ◆ nuclear matrix elements



# changes of membership within GERDA collaboration

changes since 1.1.2009

as of 24. September 2009

code: -1 exit, 1 entry, 2 aspirant

|                            |     |      |         |    |            |              |
|----------------------------|-----|------|---------|----|------------|--------------|
| Becerici-Schmid, Neslihan  | 132 | MU   | phd     | 1  | 10.8.2009  | -            |
| Cossavella, Fabiana        | 136 | MU   | postdoc | 1  | 21.9.2009  | -            |
| Freund, Kai                | 137 | TU   | phd     | 1  | 1.2.2009   | -            |
| Gasparro, Joël             | 83  | GEEL | postdoc | -1 | 1.1.2006   | - 31.1.2009  |
| Gonzalea de Orduna, Raquel | 131 | GEEL | postdoc | 1  | 1.2.2009   | -            |
| Hagen, Andrea              | 120 | TU   | diplom  | -1 | 1.3.2008   | - 31.3.2009  |
| Hemmer, Sabine             | 134 | MU   | dipl    | 1  | 14.9.2009  | -            |
| Lehnert, Björn             | 138 | DD   | dipl    | 2  | 1.10.2009  | -            |
| Schubert, Jens             | 100 | MU   | postdoc | -1 | 17.1.2007  | - 31.08.2009 |
| Vauth, Annika              | 135 | MU   | dipl    | 2  | 12.10.2009 | -            |
| Volynets, Aleksander       | 133 | MU   | phd     | 1  | 13.8.2009  | -            |

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## Editorial Board

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goto [papers\(local copy\)](#) [papers in prep](#) [conferences \(ppt\)](#) [help & guidance](#) [plots](#) [bibtex,bbl,members](#) || [literature](#) ||  
goto [GERDA home](#) [public material](#) [theses](#)

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Keep all the originals here for easier use

Password protected

Power point,  
Original papers      you will find here

PDF and links via DOI on public page

## Editorial Board: Experimental Parameters



Please improve this table.

go to [EB home](#) [help page](#)

| component / item      | design value                          |
|-----------------------|---------------------------------------|
| <b>laboratoty</b>     |                                       |
| LNGS                  | hall A                                |
| coordinates           | 42°27,66'N; 13°33,87'E                |
| altitude              | 962 m a.s.l.                          |
| rock, vertical        | 1500 m                                |
| (overburden, minimal) | (3 100 mwe)                           |
| (overburden, average) | 3 400 mwe                             |
| (overburden, maximal) | (3 800 mwe)                           |
| rock                  | CaCO <sub>3</sub> & MgCO <sub>3</sub> |
| density               | 2,71 +/- 0.05 g/cm <sup>3</sup>       |

use: (keV (kg y)) exposure !

check for updates & corrections!!!

# publications in prep



## **papers submitted to the EB**

| <b>journal</b> | <b>corr.author</b>          | <b>type</b> | <b>title/author/status</b>   |
|----------------|-----------------------------|-------------|--|
| NIM A          | K.T. Knoepfle<br>2008/04/08 |             | <a href="#">Shielding of the GERDA experiment against external gamma background</a>  |
|                |                             | sub         | I. Barabanov, L. Bezrukov, V. Gurentsov, E. Demidova, S. Kianovsky, K.T. Knoepfle, . Kornouhkov, B. Schwingenheuer, and A. Vasenko |
|                |                             | sub         |  |

## **papers passed the EB, to be looked at by all GERDA members, submitted for publication**

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| <b>journal</b> | <b>corr.author</b>                       | <b>type</b> | <b>title/author/status</b>   |
|----------------|--|-------------|--|
| JINST          | B. Majorovits<br>2009/08/07 - 2009/09/02 |             | <a href="#">Operation of an 18-fold segmented n-type HPGe detector in liquid nitrogen</a>  |
|                |  | sub         | I.Abt, A.Caldwell, D.Gutknecht, J.Janicsko-Csathy, M.Lampert, D.Lenz, X.Liu, J.Liu, B. Majorovits, D.Quirion, J.Schubert, F.Stelzer and P.Wendling                                       |
| JINST          | D. Budjas<br>2009/07/24 - 2009/08/21     |             | <a href="#">Pulse Shape discrimination studies with a Broad-Energy Germanium detector for signal identification and background suppression in the GERDA double beta decay experiment</a> |
|                |  | sub         | B. Budjas, M. Barnabe Heider, O. Chkvorets, N. Khanbekov, S. Schönert<br>accepted 2009/09/25   |

nuclear matrix elements are not nuclear matrix elements

phase space factors are not phase space factors

Scaling by  $R = r_0 A^{1/3}$  of NME corresponds to  $R^2$  scaling of  $G$

reads

$$\frac{1}{T_{1/2}} = F^{0\nu} \cdot |M^{0\nu}|^2 \cdot \left| \frac{m_{\beta\beta}}{m_e} \right|^2 = G^{0\nu} \cdot |M^{0\nu}|^2 \cdot m_{\beta\beta}^2 \quad (1)$$

Thus,

$$G^{0\nu} = \frac{F^{0\nu}}{m_e^2} \quad (2)$$

The kinematical phase space factor  $F^{0\nu}$  ( $G^{0\nu}$ ) depends on the reaction Q-value  $Q_{\beta\beta}$  and the charge  $Z$  of the mother nucleus. Thus, some authors write this factor as  $F^{0\nu}(E, Z)$ , or  $G^{0\nu}(E, Z)$ , respectively.

$$F^{0\nu} = \frac{a_{0\nu}}{(m_e R)^2 \ln 2} \int d\Omega_{0\nu} a(\varepsilon_1, \varepsilon_2) \quad (3)$$

with

$$d\Omega_{0\nu} = m_e^{-5} p_1 \varepsilon_1 p_2 \varepsilon_2 \delta(\varepsilon_1 + \varepsilon_2 + M_f - M_i) d\varepsilon_1 \varepsilon_2 d\cos\theta \quad (4)$$

*Expect a GSTR by A. Smolnikov and PG soon.*