

# Recent work on ENSDF evaluation and NSR key-wording

*Swapan Kumar Basu\**

*\*Guest Scientist, NNDC, BNL*

Permanent Address: Variable Energy Cyclotron  
Centre, I/AF Bidhan Nagar, Kolkata 700064,  
INDIA

**BROOKHAVEN**  
NATIONAL LABORATORY  
*a passion for discovery*

 **Office of  
Science**  
U.S. DEPARTMENT OF ENERGY



# My activities at NNDC

- I.  $A = 95$  mass-chain evaluation in collaboration with G. Mukherjee, A. A. Sonzogni
- $A = 95$  was last evaluated by T. W. BURROWS in 1993 [NDS 68, 635'93]
  - $A = 94$  was evaluated recently by D. Abriola & A. A. Sonzogni [NDS 107, 2423'06]
  - $A = 96$  was evaluated recently by D. Abriola & A. A. Sonzogni [NDS 109, 2501'08]
  - $A = 97$  has been evaluated recently by N. Nica and is being reviewed for publication.
  - In this scenario,  $A = 95$  evaluation is quite important. There are 13 nuclei in this mass chain, ranging between Br ( $Z=35$ ) and Ag ( $Z=47$ ) and we have been trying to complete it soon with cut-off date July 31, 2008.



# My activities at NNDC (contd.)

II. **A = 150** mass-chain evaluation in collaboration with  
**A. A. Sonzogni**

- **A = 150** was last evaluated by **J. Tuli** in 1995 [NDS 75, 827'1995]
- **A = 148** was evaluated recently **M. R. Bhat** [NDS 89, 797'2000]
- **A = 149** was evaluated by **B. Singh** [NDS 102, 1'2004]
- **A = 151** was evaluated by **B. Singh** [NDS 80, 260'1997] and is being updated by him.
  
- There are 17 nuclei in this mass chain, ranging between Cs (Z=55) and Lu (Z=71) and individual datasets are huge in most cases. We are in the process of giving final shape to this evaluation.

# My activities at NNDC (contd.)

## III. NSR KEY-WORDING

- Started as a learner in this field with the assistance from A. A. Sonzogni, since June this year.
- So far, done key-wording of more than 100 articles under the supervision of Manojeeet Bhattacharya.
- Keen to continue & to contribute to this activity, sitting in India.

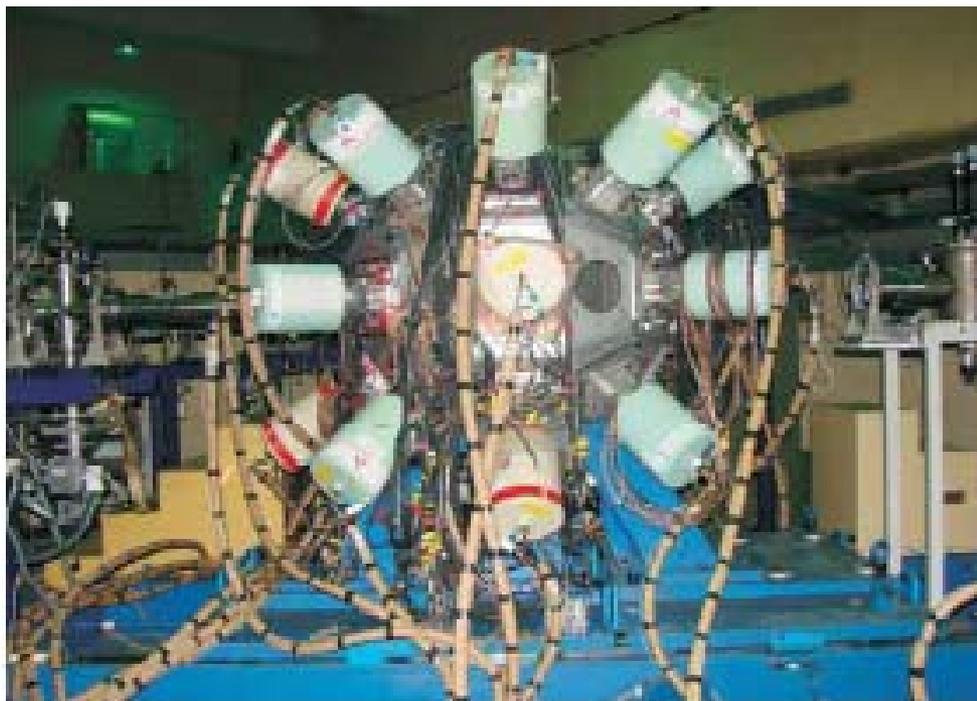


Fig. 1. View of INGA from side

Indian National Gamma Array (INGA), funded by the Dept. of Science & Technology, Govt. of India; an array of 24 Clover Ge detectors, with estimated photo-peak efficiency of 5%. Presently, experiments are being done with 18 Clovers. I am involved in this project as one of the Principal Investigators since the beginning of INGA project.

**A FEW REPRESENTATIVE PUBLICATIONS FROM**  
**OUR GROUP ON IN-BEAM GAMMA**  
**SPECTROSCOPY**

$^{146}\text{Tb}$  (Z=65) : PRC 70, 044315 (2004);

$^{143}\text{Sm}$  (Z=62): PRC 73, 044305(2006);

$^{141,142,143}\text{Pm}$  (Z=61): NPA 730, 23 (2004); PRC 65, 027301 (2002);  
PRC 58, 2998(1998);

$^{137,138,139}\text{Ce}$  (Z=38): PRC 78, 024304 (2008); Being communicated;

$^{137,137}\text{La}$  (Z=37): NPA 775, 153 (2006); NPA 750, 199 (2005);

$^{90}\text{Nb}$ ,  $^{88}\text{Zr}$ ,  $^{90}\text{Mo}$ : PRC 72, 054309 (2005); PRC 70, 014311 (2004);

$^{54}\text{Mn}$ : J. Phys. G: Nucl. Phys. 35, 095104 (2008);

# THANKING YOU

