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## List of Publications

1. **Possible wobbling phenomenon in  $^{125}\text{Xe}$**

**Mamta Prajapati**, Somnath Nag, A. K. Singh, A. Al-Khatib, H. Hübel, A. Neußer-Neffgen, G. B. Hagemann, G. Sletten, B. Herskind, C. R. Hansen, G. Benzoni, A. Bracco, R. V. F. Janssens, M. P. Carpenter, and P. Chowdhury.

Phys. Rev. C **109**, 034301 (2024).

2. **Evolution of quadrupole and octupole excitations beyond noncollective states in  $^{114}\text{Te}$**

**Mamta Prajapati**, Somnath Nag, H. Pai, S. Chakraborty, Soumik Bhattacharya, Sajad Ali, S. Rajbanshi, Prithwijita Ray, Subhrajit Sahoo, Praveen C. Srivastava, J. Meng, F. F. Xu, A. Goswami, R. Banik, S. Nandi, S. Bhattacharyya, G. Mukherjee, C. Bhattacharya, Md. S. R. Laskar, R. Palit, S. Samanta, S. Das, S. Chatterjee, R. Raut, and S. S. Ghugre.

Phys. Rev. C **110**, 064321 (2024).

## Manuscript under preparation

1. **Observation of transverse wobbling motion and chiral bands in  $^{119}\text{I}$**

**Mamta Prajapati**, Aalakh Kumar, Nidhi Goel, Somnath Nag, G. H. Bhat, J. A. Sheikh, R. Palit, Vishal Malik, P. Dey, Biswajit Das, A. Kundu, A. Sindhu, Gaurehand Manna, S. Rajbanshi, A. K. Singh, H. Pai, S. Bhattacharya, A. Mukherjee, T. Trivedi, Deepika Choudhury, Sahab Singh, Abraham T Vazhappilly, S. Jadhav and B. S. Naidu.

(To be submitted to Phys. Letter B)

## Results reported in Conferences

### 1. Octupole correlation in $^{114}\text{Te}$

**Mamta Prajapati**, Somnath Nag, H. Pai, S. Chakraborty, Soumik Bhattacharya, Sajad Ali, S. Rajbanshi, Prithwijita Ray, A. Goswami, R. Banik, S. Nandi, S. Bhattacharyya, G. Mukherjee, C. Bhattacharya, Md. S. R. Laskar, R. Palit, S. Samanta, S. Das, S. Chatterjee, R. Raut, and S. S. Ghugre.

Proceedings of the DAE Symp. on Nucl. Phys. **66** A31 (2022).

### 2. Shell model calculation for $^{114}\text{Te}$ to address the anomalies in $E2$ transition probabilities

**Mamta Prajapati**, Somnath Nag, Haridas Pai, Saikat Chakraborty, and Prithwijita Ray.

Proceedings of the DAE Symp. on Nucl. Phys. **67** A149 (2023).

### 3. Enhanced $E1$ transitions in $^{119}\text{I}$

**Mamta Prajapati**, Nidhi Goel, Aalakh Kumar, Somnath Nag, R. Palit, Vishal Malik, P. Dey, Biswajit Das, A. Kundu, A. Sindhu, Gaurchand Manna, S. Rajbanshi, A. K. Singh, H. Pai, S. Bhattacharya, A. Mukherjee, T. Trivedi, Deepika Choudhury, Sahab Singh, Abraham T Vazhappilly, S. Jadhav, B. S. Naidu, Raghava Varma.

Proceedings of the DAE Symp. on Nucl. Phys. **67** A38 (2023).

### 4. Observation of isomeric state at $I_{\pi} = (3^{-})$ in $^{118}\text{I}$

**Mamta Prajapati**, Nidhi Goel, Aalakh Kumar, Somnath Nag, R. Palit, Vishal Malik, P. Dey, Biswajit Das, A. Kundu, A. Sindhu, Gaurchand Manna, S. Rajbanshi, A. K. Singh, H. Pai, S. Bhattacharya, A. Mukherjee, T. Trivedi, Deepika Choudhury, Sahab Singh, Abraham T Vazhappilly, S. Jadhav, B. S. Naidu, Raghava Varma.

Proceedings of the DAE Symp. on Nucl. Phys. **68** A133 (2024).

## Results reported as a coauthor in Conferences

### 1. Evidence of antimagnetic rotation in $^{141}\text{Sm}$

G. Manna, S. Rajbanshi, S. Bhattacharya, B. Das, Atreyee Dey, P. Dey, Nidhi Goel, A. Kundu, V. Malik, **Mamta Prajapati**, Rajat Roy, Sahab Singh, Sajad Ali, Deepika Chowdhury, G. Mukherjee, Somnath Nag, R. Palit, A. K. Singh, S. K. Jadhav, B. S. Naidu, A. T. Vazhappilly.

Proceedings of the DAE Symp. on Nucl. Phys. **66** A23 (2022).

### 2. Spectroscopic study of $^{114}\text{Sb}$ nucleus

Aalakh Kumar, **Mamta Prajapati**, Somnath Nag, H. Pai, S. Chakraborty, Soumik Bhattacharya, Sajad Ali, S. Rajbanshi, Prithwijita Ray, A. Goswami, R. Banik, S. Nandi, S. Bhattacharyya, G. Mukherjee, C. Bhattacharya, Md. S. R. Laskar, R. Palit, S. Samanta, S. Das, S. Chatterjee, R. Raut, and S. S. Ghugre.

Proceedings of the DAE Symp. on Nucl. Phys. **67** A24 (2023).

### 3. Yrast and near-yrast states in $^{130}\text{Xe}$

Suchorita Paul, R. Banik, S. Bhattacharyya, Soumik Bhattacharya, S. Chakraborty, S. Rajbanshi, G. Mukherjee, A. Sindhu, R. Palit, A. Kundu, Vishal Malik, Biswajit Das, P. Dey, S. S. Nayak, Sneha Das, Shabir Dar, S. Nandi, Sajad Ali, S. Chatterjee, S. Das, S. Samanta, R. Raut, S. S. Ghugre, A. Goswami, S. Das Gupta, Debasish Mondal, S. Mukhopadhyay, D. Pandit, S. Pal, P. Ray, S. Mukhopadhyay, P. K. Nayak, C. Majumder, S. Bhattacharya, and **Mamta Prajapati**

Proceedings of the DAE Symp. on Nucl. Phys. **67** A9 (2023).

### 4. Study of $B(E3)$ decay in $^{202}\text{Po}$

Sahab Singh, D. Choudhury, B. Maheshwari, R. Roy, R. Palit, P. Dey, B. Das, A. Kundu, Md. S. Laskar, D. Negi, S. Nag, N. Goel, **Mamta Prajapati**, A. Dhal, S.

Bhattacharya, B.S. Naidu, S. Jadhav, and A.V. Thomas.

Proceedings of the DAE Symp. on Nucl. Phys. **67** A94 (2023).

**5. Spectroscopic study of  $^{96}\text{Mo}$  nucleus**

Aalakh Kumar, **Mamta Prajapati**, Nidhi Goel, Somnath Nag, A. K Singh, G. Manna, S. Rajbanshi, S. Bhattacharya, H. Pai, G. Mukherjee, S. Bhattacharyya, S. Bhattacharya, S. Chakraborty, S. S. Nayak, S. Basak, A. Pal, R. Palit, Habibur Rahaman, Saiket Sen, T. Trivedi, Rupesh K. Kushwaha, S. Ali, D. Chaudhary, Sahab Singh, Rajat Roy, R. Raut, Pankaj K. Giri, A. Sharma, Soumalya Kundu.

Proceedings of the DAE Symp. on Nucl. Phys. **68** A59 (2024).

**6. Z5 Critical Point Symmetry in  $^{76}\text{Se}$**

Rahul Biswas, Subhendu Rajbanshi, Habibur Rahaman, Sajad Ali, Abhijit Bisoi, Gourchand Manna, Sarmishtha Bhattacharya, Gopal Mukherjee, Ajay Kumar Singh, Soumik Bhattacharya, Nayak S S, Snigdha Pal, Saikat Chakraborty, Anindita Karmakar, **Mamta Prajapati**, Aalakh Kumar, Wadut Shaikh, Suchorita Paul, Chandrani Majumder, and Somnath Nag

Proceedings of the DAE Symp. on Nucl. Phys. **68** A38 (2024).

**7. High Spin Spectroscopy of  $^{201}\text{Po}$**

Sahab Singh, Khamosh Yadav, Deepika Choudhury, Maheshwari Bhoomika, Rudrajyoti Palit, Piku Dey, Biswajit Das, Ananya Kundu, Vishal Malik, MD S. R. Laskar, Dinesh Negi, Somnath Nag, **Mamta Prajapati**, Shital Jadav, B. S. Naidu, A. V. Thomas, Rajat Roy.

Proceedings of the DAE Symp. on Nucl. Phys. **68** A29 (2024).

**8. Evidence of  $E5$  symmetry in  $^{74}\text{Se}$**

Sajad Ali, S. Rajbanshi, Habibur Rahaman, Abhijit Bisoi, Rahul Biswas, Gourchand Manna, A. K. Singh, S. Chakraborty, S. Bhattacharyya, G. Mukherjee, S. S. Nayak,

Soumik Bhattacharya, Snigdha Pal, S. Basak, Suchorita Paul, A. Pal, A. Deb, Wadut Shaikh, A. Karmakar, **Mamta Prajapati**, A. Kumar, C. Majumder.  
Proceedings of the DAE Symp. on Nucl. Phys. **68** A31 (2024).

9. **Evidence of a nano-second isomer in  $^{201}\text{Po}$**

Khamosh Yadav, Sahab Singh, D. Choudhury, B. Maheshwari, R. Roy, R. Palit, P. Dey, B. Das, A. Kundu, V. Malik, S. R. Laskar, D. Negi, S. Nag, **Mamta Prajapati**, S. Jadhav, B. S. Naidu, A. V. Thomas  
Proceedings of the DAE Symp. on Nucl. Phys. **68** A126 (2024).

10. **Degenerate doublet bands in  $^{141}\text{Sm}$**

G. Manna, S. Rajbanshi, Habibur Rahaman, Rahul Biswas, R. Palit, S. Bhattacharya, B. Das, Atreyee Dey, P. Dey, Nidhi Goel, A. Kundu, V. Malik, **Mamta Prajapati**, Sajad Ali, Deepika Chowdhury, G. Mukherjee, Somnath Nag, A.K. Singh.  
Proceedings of the DAE Symp. on Nucl. Phys. **68** A15 (2024).

11. **Observation of multipole  $E3$  transitions in  $^{74}\text{Se}$**

Habibur Rahaman, S Rajbanshi, Abhijit Bisoi, Rahul Biswas, Sajad Ali, G Manna, Saikat Sen, A.K Singh, S Chakraborty, S Bhattacharyya, G Mukherjee, S.S. Nayak, S Bhattacharya, Snigdha Pal, S Basak, Suchorita Paul, A Pal, A Deb, W Sheikh, A Karmakar, **Mamta Prajapati**, A Kumar, C Majumder  
Proceedings of the DAE Symp. on Nucl. Phys. **68** A7 (2024).

## Schools/Workshops Attended

1. School on "**Nuclear Structure Using Gamma-Ray Spectroscopy**" Inter University Accelerator Centre, September 20-24, 2021.
2. School on "**Data Acquisition and Analysis**" Inter-University Accelerator Centre, February 22-24, 2023.
3. School on "**Nuclear Models for Structure Studies**" Inter-University Accelerator Centre (IUAC), Delhi (2023).
4. International Webinar on "**Nuclear Shell Model**" organized by the Department of Physics, Akal University, Talwandi Sabo, Bathinda, Punjab (2024).
5. School on "**Basic Concepts in Nuclear Physics: Theory, Experiments, and Applications**" organized by the University of Andalusia at La Rabida, Huelva, Spain, 16-20 June 2025. (Title of seminar: "Possible Wobbling Phenomenon in  $^{125}\text{Xe}$ " **Oral Presentation**).
6. "**Frontiers in Gamma Ray Spectroscopy (FIG2025)**" conference organized by TIFR, Mumbai, India, in March 2025. (Title of presentation: "Evolution of quadrupole and octupole excitations beyond noncollective states in  $^{114}\text{Te}$ " **Poster presentation**).