

List of Publications

Publications in Peer-Reviewed Journals

Publications Related to Present Thesis

1. **Assessment of γ -ray and fast neutron shielding parameters for ordinary concrete containing different ratios of WC and B₄C**

Bhargav K. Soni, Rajnikant Makwana, S. Mukherjee, Surendra Singh Barala, S. Parashari, R. Chauhan, A. S. Jodha, and K. Katovsky. *Results in Materials* **10(1):100177, March 2021; DOI: 10.1016/j.rinma.2021.100177.**

2. **Measurements of $^{181}\text{Ta}(n,2n)^{180}\text{Ta}$ reaction cross-section at the neutron energy of 14.78 MeV**

Bhargav K. Soni, Siddharth Parashari, S Mukherjee, Rajnikant Makwana, M Mehta, R Chauhan, S V Suryanarayana, I Pasha, L S Danu, H Naik, B K Nayak, J Varmuza and K Katovsky. *Indian Journal of Pure & Applied Physics* Vol. **58, April 2020, pp. 228-233.**

3. **Measurement of the $^{nat}\text{In}(n,\gamma)^{116m}\text{In}$ reaction cross-section at the neutron energies of 10-20 MeV**

Bhargav Soni, Siddharth Parashari, S. Mukherjee, Rajnikant Makwana, S. V. Suryanarayana, B. K. Nayak, H. Naik, J. Varmuza, K. Katovsky. *Eur. Phys. J. Plus* (2020) **135: 300; DOI: 10.1140/epjp/s13360-020-00313-y.**

4. **Neutron capture cross-sections for ^{159}Tb isotope in the energy range of 5 to 17 MeV,**

B. K. Soni, Rajnikant Makwana, S. Mukherjee, Siddharth Parashari, S.V. Suryanarayana, B.K. Nayak, H. Naik, M. Mehta. *Applied Radiation and Isotopes*, **141 (2018) 10-14; DOI: 10.1016/j.apradiso.2018.08.009.**

Publications in Proceedings of Conferences

1. **Measurement of the $^{27}\text{Al}(n,\alpha)^{24}\text{Na}$ reaction cross-section at the neutron energies within 10-20 MeV**

Bhargav Soni, Siddharth Parashari, R. Makwana, S. Mukherjee, S.V. Suryanarayana, H. Naik, T Nath, S. C. Sharma and B. K. Nayak, **Centenary Celebration Conference On Nuclear Structure and Nuclear Reactions, Aligarh Muslim University, Aligarh, 2-4 March, 2020.**

2. **Angular distribution of $^{12,13}\text{C} + ^{175}\text{Lu}$ system relative to modified detector efficiencies calculated using MCNP code**

Siddharth Parashari, R. Makwana, **Bhargav Soni**, S. Mukherjee, H. Kumar, S. A. Tali, M. A. Ansari, K. Katovsky, **Centenary Celebration Conference On Nuclear Structure and Nuclear Reactions, Aligarh Muslim University, Aligarh, 2-4 March, 2020.**

3. **Measurement of the $^{181}\text{Ta}(n, 2n)^{180}\text{Ta}$ reaction cross-section at 14.1 MeV**

B. K. Soni, S. Parashari, R. Makwana, S. Mukherjee, S. V. Suryanarayana, H. Naik, N. L. Singh, B. K. Nayak, K. Katovsky, **International Conference on New Frontiers in Nuclear Physics, ICNFP-2019.**

4. **Measurement of (n, γ) reaction cross section of ^{186}W -isotope at neutron energy of 20.02 ± 0.58 MeV**

Mayur Mehtaa, N L Singh, R Makwana, P V Subhash, S V Suryanarayana, S Parashari, Rakesh Chauhan, R K Singh, H Naik, S Mukherjee, **B Soni**, S Khirwadkar, J Varmuza and K Katovsk, **International Conference on New Frontiers in Nuclear Physics, ICNFP-2019.**

5. **Excitation function of the proton induced ^{nat}Sn reactions below 22 MeV for reactor applications**

Siddharth Parashari, Surjit Mukherjee, **B.K. Soni**, R. Makwana, S.V. Suryanarayana, B.K. Nayak, and H. Naik, **International Conference on Recent Issues in Nuclear and Particle Physics (RINP2), Lipika Auditorium, Visva-Bharati, 3-5 February 2019 organized by Department of Physics, Visva-Bharati.**

6. **Measurement of the $^{184}\text{W}(n, \alpha)^{181}\text{Hf}$ reaction cross-section using quasi-monoenergetic neutrons**

Bhargav Soni, Siddharth Parashari, R. Makwana, S. Mukherjee, M. Mehta, R. Palit, **Proceedings of the DAE-BRNS Symp. on Nucl. Phys. 64 (2019).**

7. **Gamma-ray shielding study of different concrete compositions as a reactor shielding**

Bhargav Soni, Rajnikant Makwana, S. Mukherjee, S. S. Barala, V. Vashi, S. Parashari, Rakesh Chauhan, K. Katovsky, **Proceedings of the DAE-BRNS Symp. on Nucl. Phys. 64 (2019).**

8. **Semi-empirical systematics for the reaction cross-sections around 14.5 MeV**
Siddharth Parashari, Suraj K. Singh, **Bhargav Soni**, S. Mukherjee, **Proceedings of the DAE-BRNS Symp. on Nucl. Phys. 64 (2019).**

9. **Measurement of reaction cross-section for $^{197}\text{Au}(n, 2n)^{196}\text{Au}$ reaction**

Vibhuti Vashi, R. Makwana, S. Mukherjee, **B. Soni**, M.H. Mehta, S. Parashari, R.K. Singh, S.V. Suryanarayana, B.K. Nayak, S.C. Sharma, H. Naik, Taraknath, **Proceedings of the DAE-BRNS Symp. on Nucl. Phys. 64 (2019).**

10. **Neutron nuclear data of n, 2n reaction for Sb Isotopes**

R K Singh, R D Chauhan, S V Suryanarayana, Rajnikant Makwana, S K Mukherjee, Mayur Mehta, Tarak Nath, **Bhargav Soni**, *Proceedings of the DAE-BRNS Symp. on Nucl. Phys. 64 (2019)*.

11. **Measurement of the $^{115}\text{In}(n, 2n)^{114m}\text{In}$ reaction cross-section using the quasi-monoenergetic neutrons**

Bhargav K. Soni, Siddharth Parashari, S. Mukherjee, S.V. Suryanarayana, R. Makwana, B.K.Nayak, Ratan K. Singh, S.C. Sharma, M. Mehta, N.L. Singh, and H. Naik, *Proceedings of the DAE Symp. Nucl. Phys. 63 (2018) 466*.

12. **Different concrete compositions as a reactor shielding material for neutrons and gamma rays**

B. K. Soni, Rajnikant Makwana, S. Mukherjee, N. L. Singh, Karel Katovsky, *Proceedings of the DAE Symp. Nucl. Phys. 63 (2018) 466*.

13. **Measurements of cross section of $^{160}\text{Gd}(n, 2n)^{159}\text{Gd}$ reaction at energies of 10.72, 14.72 and. 18.72 MeV**

Rakesh Chauhan, Ratan Kumar Singh, Rajnikant Makwana, N. L. Singh, S. Mukherjee, H. Naik, Mayur Mehta, **B. K. Soni**, S.V. Suryanarayana, *Proceedings of the DAE Symp. Nucl. Phys. 63 (2018) 466*.

