

Studiul nucleosintezei de la Big Bang la p-proces folosind fascicule gama

Expanding Big Bang and p-process nucleosynthesis understanding by using gamma-ray beams

ARTICOLE PUBLICATE / CONFERINTE Publications / Conferences

Conferences & workshops presentations:

1. I-process Nucleosynthesis Workshop & School, 14-19 May 2023, Limasol, Cyprus

Ioana Kuncser (project member, PhD student), participated in the workshop and delivered an oral contribution with the title **“The study of the ${}^7\text{Li}(\gamma, t){}^4\text{He}$ reaction with mono-energetic gamma-ray beams”**

2. Nuclear Photonics 2023, 11-15 September 2023, Durham NC, USA

Catalin Matei (project director) and Kelly Chipps (ORNL) submitted an invited abstract: **“Experimental Studies of Gamma-Induced Reactions for the P-Process”**. Kelly Chipps presented the talk.

3. 67th DAE Symposium on Nuclear Physics, 9-13 December 2023, Indore, India

Catalin Matei (project director), delivered an **invited talk** with title **“Photonuclear reactions with charged particles detection for nuclear astrophysics studies”**

4. 12th European Summer School on Experimental Nuclear Astrophysics, 16-21 Iunie, Aci Trezza, Italia

Ioana Kuncser (project member, PhD student), participated in the summer school and delivered an oral contribution during the Young Researcher Session with the title **“The study of the ${}^7\text{Li}(\gamma, t){}^4\text{He}$ reaction with mono-energetic gamma-ray beams”**

5. Nuclear Physics in Astrophysics XI, 15-21 September 2024, Dresden, Germania

Haridas Pai (project member, CS3), participated in the conference and delivered an oral contribution with the title **“ELI Silicon Strip Array (ELISSA) at ELI-NP”**

6. Nuclear Physics in Astrophysics XI, 15-21 September 2024, Dresden, Germania

Ioana Kuncser (project member, PhD student), participated in the conference and delivered an oral contribution with the title “**The study of the ${}^7\text{Li}(\gamma, t){}^4\text{He}$ reaction at energies below 6 MeV at HIgS**”

7. International Symposium on Nuclear Science (ISNS-24), Sofia, Bulgaria, September 9-13, 2024

Catalin Matei (project director), delivered an **invited talk** with title “**Photonuclear reactions with charged particles detection for nuclear astrophysics studies**”

8. International Symposium on Nuclear Science (ISNS-24), Sofia, Bulgaria, September 9-13, 2024

Yi Xu (project member, CS3), participated in the conference and delivered an oral contribution with the title “**Vortex photon induced nuclear reaction: Mechanism, model, and application to the studies of giant resonance and astrophysical reaction rate**”

9. INAC International School & OMEG2024 Pre-symposium, China, August 31 – September 8, 2024

Yi Xu (project member, CS3), participated in the conference and delivered an oral contribution with the title “**TALYS code for nuclear reaction simulation**”

Publications:

1. Photonuclear reactions with charged particle emission for nuclear astrophysics studies, C.R. Brune, **C. Matei (corresponding author)**, S.D. Pain, R. Smith, **Eur. Phys. J. A 59, (2023) 165**
2. Systematic study of the radiative proton capture including the compound, pre-equilibrium, and direct mechanisms, Bing Wang, **Yi Xu (corresponding author)**, Stephane Goriely, **Phys. Rev C 109, 014611 (2024)**
3. Vortex photon induced nuclear reaction: Mechanism, model, and application to the studies of giant resonance and astrophysical reaction rate, **Y. Xu**, D.L. Balabanski, V. Baran, C. Iorga, **C. Matei, Phys. Lett. B 852, 138622 (2024)**