

INVESTIGATING ALPHA CLUSTER STRUCTURE IN LIGHT NUCLEI THROUGH RESONANT REACTIONS AT THE ASTANA CYCLOTRON

Tuesday, 8 October 2024 15:15 (15 minutes)

We'll present a short review of resonant reactions studies performed by the Thick Target Inverse Kinematics (TTIK) approach using beams of the DC-60 cyclotron in Astana (Kazakhstan). Our focus is the reactions induced by gaseous isotopes. In this case the TTIK method provides for continue in energy excitation functions at different angles and these data are free from target admixtures unavoidable at usual approach [1]. We use a combination of the TTIK approach and the time of flight measurements to provide for a better overall energy resolution in the experiments. We'll review the spectroscopic results for ^{13}C , ^{15}N , ^{14}N , ^{16}O , ^{17}O and ^{18}O interaction with helium and hydrogen [2-8] important for understanding exotic nuclear structure and for nuclear astrophysics.

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Section

Nuclear physics (Section 1)

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Session Classification: Section 1 –“Nuclear Physics”

Track Classification: The V International Scientific Forum “Nuclear Science and Technologies”: Nuclear physics (Section 1)