

NEUTRON SCATTERING AND REACTIONS ON LITHIUM ISOTOPES

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The study of 14 MeV neutron scattering and reactions on lithium isotopes is important in many respects. In nuclear physics it could give information e.g.:

- a) on cluster structure of different states in these light nuclei,
- b) on charge independence in nuclear reactions,
- c) on the validity of the optical model concept for very light nuclei, etc.

For nuclear energy purposes it could give valuable data for one of the most important materials especially in the controlled fusion reactor technology (e.g. on tritium breeding).

In this study recoiled lithium and helium nuclei were detected using counter telescope. In this way the very backward part of the angular distribution was measured.

Preliminary measurements on lithium break-up reactions were also performed. Two outgoing charged particles were detected. Scattering data are compared with the data from previous measurements as well as with the theoretical calculations using different optical model potentials.