

# Mass and energy distributions of fission fragments of $^{241}\text{Am}^*$ compound nucleus with $\sim 11.5$ MeV excitation energy formed in $^{240}\text{Pu}(p,f)$ reaction at incident proton energy of 7 MeV and their decomposition into separate yields of fission modes.

Mass and energy distributions of fission fragments are formed under the influence of different nuclear shells. Therefore by measuring and analyzing mass and energy distributions it is possible to study nuclear structure. However to form a comprehensive understanding a wide range of mass and energy distributions of fission fragments of different compound nuclei at various excitation energies must be studied. Nuclear reactions with charged particles provide access to much greater range of compound nuclei both in their composition and excitation energy than nuclear reaction with neutrons. To further the study of nuclear structure we present preliminary results of our measurement of mass and energy distributions of fission fragments of  $^{241}\text{Am}^*$  compound nuclei with  $\sim 11.5$  MeV excitation energy formed in  $^{240}\text{Pu}(p,f)$  reaction at incident proton energy of 7 MeV which we made on U-150M cyclotron at Institute of Nuclear Physics, Almaty using our Dinode experimental chamber and 2E setup. We also present decomposition of said preliminary mass and energy distributions of fission fragments into separate yields of different fission modes using our new, sensitive method of decomposition which allows us to distinguish small yields from deformed shells.

## Section

Nuclear physics (Section 1)

**Primary author:** Mr PAN, Andrey (Laboratory of Fission Physics, Institute of Nuclear Physics)

**Co-authors:** Dr JANSEITOV, Daniyar (Laboratory of Fission Physics, Institute of Nuclear Physics); ALIMOV, Dilshod; Mr KOVALCHUCK, Kirill (Laboratory of Fission Physics, Institute of Nuclear Physics); Prof. BURTEBAYEV, Nasurlla (Laboratory of Fission Physics, Institute of Nuclear Physics); Ms KOSHERBAYEVA, Raisa (Laboratory of Fission Physics, Institute of Nuclear Physics)

**Presenter:** ALIMOV, Dilshod

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