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Status and perspectives of Acculinna-2 fragment separator at U-400M cyclotron

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In March 2017 the first set of radioactive ion beams (RIBs) was obtained from the new in-flight fragment separator ACCULINNA-2 operating at the primary beam line of the U-400M cyclotron. A lot of additional work was done before the first experimental run which was carried out in fall 2017. Namely, the new experimental hall of the setup (the linear part of the radioactive beam line) was fully completed providing all communications and equipment (electricity, air conditions, water cooling, reaction chamber, detectors, electronics etc). All observed RIB characteristics are in a good agreement with expected estimations. New separator provides high quality secondary beams, and it opens new opportunities for experiments with RIBs ($Z < 36$) in intermediate energy range 10-50 AMeV. To expand significantly RIB intensities, its assortment ($Z \sim 54$) and available energies (up to ~ 150 AMeV) the new heavy ion driver and more powerful fragment separator are obviously need. Possible design of the setup and related physical tasks will be reported as well.

Primary author: Dr FOMICHEV, Andrey (JINR)

Presenter: Dr FOMICHEV, Andrey (JINR)

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