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Experimental complex ACCULINNA-2: status and development

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The ACCULINNA-2 fragment separator was newly built at FLNR JINR [http://aculina.jinr.ru/] for providing RIB with Z \leq 20 and 20-40 AMeV. The driver U-400M cyclotron is under reconstruction until end of 2022. The experimental complex ACCULINNA-2 includes a wide range of tools and detector systems:

- Beam equipment: production target unit, beam dump, wedge and slits.
- Additional RIB cleaning device RF-kicker for proton-rich isotopes.
- T-o-F and tracking ion-by-ion secondary beam diagnostic.
- Cryogenic isotope thin foil physical targets:
- o H2, D2 gas/solid
- o Unique T2 gas/liquid
- o Low temperature He3, He4 gas/liquid

• 20-1500 mkm thickness SSD with scintillator arrays allows one to combine dE-E telescopes for the wide range of tasks.

• Neutron wall based on monocrystalline stilbene (neutron/gamma pulse-shape identification) and plastic segmented array.

• Zero-angle spectrometer for beam like charged particle detection.

Thus, the directions developed by our team cover the whole spectrum of experimental tasks at ACCULINNA-2 and can be applied at other facilities.

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