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Development of a numerical model of BINP AMS facility

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Routine ^{14}C analysis of user samples is performed with two accelerator mass spectrometers at AMS Golden Valley: BINP AMS facility, developed by Budker Institute of Nuclear Physics, Russia and MICADAS-28 facility, developed by IonPlus AG, Switzerland. The laboratory has international index GV and provides ^{14}C analyses of various samples: collagen, cellulose, humic acids, carbonates from sediments etc. The main focus of the laboratory is to determine the age of archaeological artifacts.

BINP AMS is currently undergoing modernization, the main objectives of which are to increase the reliability of operation and improve the performance of this installation. One of the key conditions for the success of this upgrade is a detailed simulation of the beam dynamics in an accelerator section. A numerical model of the installation was built, and based on the simulation results, the modernization of some ion-optical elements was proposed.

Student Submission

No

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