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Al-26 and Be-10 measurements at DREAMS, HZDR – an update

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DREAMS, the DREsden AMS-facility, in operation since 2011 is based on a 6 MV Tandatron (manufactured by High Voltage Engineering Europa) and shared with other research groups at the Helmholtz-Zentrum Dresden-Rossendorf (HZDR). DREAMS has been applied primarily in the measurement of cosmogenic isotopes. However, with radiocarbon not in the mix, a focal point has always been the routine measurement of ^{10}Be and ^{26}Al . Over the years, we have improved the AMS facility in various aspects for increased performance, particularly for these two isotopes. In this report we will give details on the performance of our routine measurements over the past 12 years of operation with a focus on the impact of methodological developments since 2021. We will present our recent investigations and improvements on the performance of ^{10}Be and ^{26}Al measurements, highlight key challenges remaining, and point to potential future optimisations. Finally, we have reinvestigated our in-house standard material for ^{26}Al against the standards provided by Nishiizumi (2004) – “KNSTD” – to ensure compatibility of reported results with exposure-age calculators such as CRONUS-Earth.

Student Submission

No

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