umn grading resistors, spirally-inclined titanium-electrode acceleration tubes, an 8-position sample changer for the ion source, electrical filtering of all low voltage wiring entering the accelerator pressure vessel, new software for controlling the injector and analyzing magnets, new cryopumps, and the removal of much obsolete equipment. Operational experience with the initial phase of the upgrade demonstrates great improvement in the useful operating voltage, the frequency of tank sparks which were reduced by more than an order of magnitude, the beam transmission, and the beam stability. This and other improvements have resulted in a factor of two improvement of the AMS precision for \(^{36}\)Cl measurements and a factor of 3 to 5 improvement in sample measuring capacity.

The next phase of the upgrade is currently underway. This phase will include rebuilding the beam line between the source and the injector magnet, and rebuilding the stripper assembly in the accelerator terminal, and the integration of the controls for this equipment into the VISTA control system which will ultimately control the entire accelerator.

Most of the components for the beam line have already been purchased, and a large number of custom components have been sent to the machine shop for construction. It is expected that most of the components will be finished by the time of the AMS7 conference. Most of the drawings for the terminal components are completed. A large pressure test vessel (a used small accelerator tank) has been purchased and is currently being installed. The entire terminal stripper assembly will fit in this test fixture to permit pressure testing and leak checking of most of the components before the accelerator is shut down for this part of the upgrade. Several critical components for the terminal, such as one of the turbo pumps, are ready for pressure testing. The upgrade of the terminal will include the installation of a fiber-optic communication system to permit computer control of the new terminal components. These improvements are expected to make a substantial improvement in the beam transmission and stability for AMS measurements.

Initial planning is underway for the installation of the new AMS injector. Only minor changes have been made to the design presented in AMS6. This design will provide for the ability to do fast switching once the positive ion analysis portion of the accelerator is also upgraded. The computer control system will be integrated into the accelerator systems during the upgrade to eliminate the need for the construction of manual controls.

**THE LONG-TERM VARIATION OF \(^{10}\)Be FLUX CHANGES AT ODP SITE \(^{925}\)B ON THE SEARA RISE IN THE EQUATORIAL ATLANTIC**

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In recent study, the radionuclide \(^{10}\)Be (half life: \(1.5 \times 10^6\ \text{yr}\)) has been used in flux studies as a geochemical and a sedimentological tracer. The progress of flux studies has provided opportunities to understand its behavior, its residence times in the ocean and the process by which it is removed to the sediments (i.e., boundary scavenging).

Our primary goal in this study was to assess the long-term variation of \(^{10}\)Be flux changes and to estimate the source of fluxes on the Seara Rise in the equatorial Atlantic.

Age-corrected \(^{10}\)Be flux concentrations range from 40 to \(140 \times 10^7\ \text{atoms/cm}^2\) (average \(60 \times 10^7\ \text{atoms/cm}^2\)). The variations of \(^{10}\)Be flux can be explained by source change in the sediments. We can mention at least the following conclusions from the present study.