

WAO'18: Workshop on Accelerator Operations



Contribution ID: 70

Type: **Oral**

Development of the NSRL Galactic Cosmic Ray Simulator

Monday, October 1, 2018 11:30 AM (20 minutes)

The Galactic Cosmic Ray (GCR) Simulator project at Brookhaven National Laboratory's NASA Space Radiation Laboratory (NSRL) was developed to assess the biological risks of exposure to the wide variety of ion species (and energies) that would be experienced on manned space missions outside the protection provided in Low Earth Orbit. In recent years tools have been developed to enable rapid, reliable and fully automated switching between any combination of the wide assortment of ion beams available to NSRL. In the summer 2018 NSRL run the first full spectrum GCR (32 separate ion/energy configurations) biology experiments were successfully completed. The software tools that control and manage the rapid changes to the accelerator complex for GCR running are largely operator created. This presentation will give an overview of the NSRL/GCR project and discuss the software tools and techniques that make it possible as well as how the system is integrated with the other programs at accelerator complex.

Primary author: KLING, Nicholas (Brookhaven National Lab)

Presenter: KLING, Nicholas (Brookhaven National Lab)

Session Classification: Operator tools & software

Track Classification: Operator-made tools and software