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Improving isotope production using machine learning techniqures at iThemba Labs

The production of high-quality radioisotopes is essential for nuclear medicine, scientific research and various industries. These radioisotopes are produced using advanced particle accelerators at iThemba LABS and have become the leading organization for radioisotope production. The process requires precise control over the beam parameters, the target material, and the chemical processing. However, small changes in beam parameters, target material, or chemical processing can significantly impact the amount and quality of isotopes produced. To improve on the production, we investigate the use of machine learning (ML) techniques to make the production more efficient and reliable. These techniques will mainly focus on the intelligent knowledge systems, to optimize production pathways using historical production records and real-time beam related data to enhance isotope yield and reduce inefficiencies.

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Yes, I ACCEPT

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