Radioactive Ion Beams in Brazil (RIBRAS)


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A system consisting of two superconducting solenoids (RIBRAS)\(^1\) for the production of secondary light exotic beams was recently installed at the Pelletron Laboratory of the University of São Paulo, Brazil. The two solenoids are presently located at one of the beam lines of the 8 MV, Tandem accelerator and, in a later stage, they will be moved to the LINAC pos-accelerator of 10\(\text{A}\).\(\text{MeV}\). The RIBRAS system is similar to the UND-TWINSOL system, with a larger field integral 5\(\text{T}\).\(\text{m}\) and 6.5\(\text{T}\) maximum central field in order to operate using the higher mass and energy primary beams delivered by the LINAC.

Secondary beams of \(^8\text{Li}\) and \(^6\text{He}\) using a \((E = 30\text{MeV}, 200\text{nA})\) \(^7\text{Li}\) primary beam and a \(^9\text{Be}\) primary target have been produced with intensities of \(10^5\text{part/s}\) of \(^8\text{Li}\) and \(10^4\text{part/s}\) of \(^6\text{He}\). Measurements of the production rates for the first secondary beams were performed on February/2004 during the XIII J.A. Swieca Summer School. Details of the project and future perspectives will be presented.

\(^1\) R. Lichtenthäler, A. Lépine-Szily, V. Guimarães, G.F. Lima, M.S. Hussein