A study of the 1+n+ scenario with the Phoenix booster at ISOLDE

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At ISOLDE / CERN, an on-line test bench is dedicated to charge breeding experiments with a 14 GHz Phoenix ECRIS. The investigation of the 1+->n+ scenario with exotic ion beams provides useful information for the design of the next generation of radioactive ion beam post-accelerators. The program of tests for the on-line performances was concluded this year. Possibilities of beam purification with the charge breeder were actively studied for applications to physics experiments. The production of pure beams of neutron-rich nuclei for nuclear astrophysics using the ECR charge breeder was tested at ISOLDE in August. This contribution will present an overview of the latest results and some perspectives for the future use of the Phoenix booster for physics experiments at ISOLDE.

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