



CM-P00044133

PROPOSAL TO THE PSCC COMMITTEE

COMPLIS: Collinear Spectroscopy Measurements
using a Pulsed Laser Ion Source

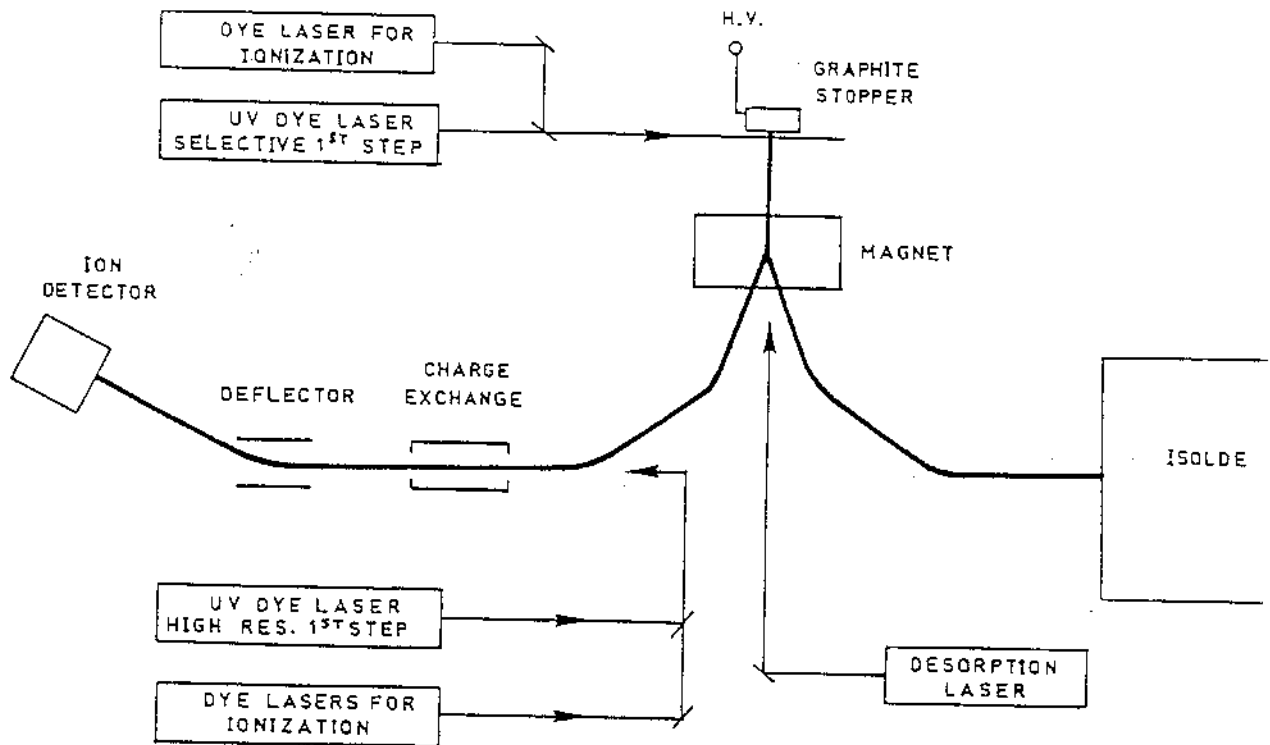
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SUMMARY

A pulsed laser spectroscopy experiment is proposed for the study of hyperfine structure and isotope shift of refractory and daughter elements from ISOLDE beams. It includes decelerated ion-implantation, laser desorption, element-selective laser ionization, magnetic and time-of-flight mass separation. The laser spectroscopy will be performed on the desorbed atoms in a set-up at ISOLDE-3 but later on high resolution collinear spectroscopy with the secondary pulsed ion beam is planned for the Booster ISOLDE set-up. In the first step very neutron-deficient Pt isotopes will be studied to search for a second shape transition around $A = 180$ and to investigate upon the parabolic baseline in the isotope shift, well documented in lighter elements only. The study of nuclear shape should be completed by a γ - γ nuclear spectroscopy at mass 179. The beam time request at ISOLDE-3 is a total of 15 shifts of Au and Hg beams.



Scheme of the experiment. The upper laser system is used for desorption and first ionization. The lower system with high resolution is used to ionize the neutral fast beam in the collinear section.