

## Selective contaminant adsorption for RIB purification at ISOLDE

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Target and ion source units have been recently developed at CERN-ISOLDE with the aim of delivering isobarically clean beams of short lived neutron-rich Cd and Zn. Chemical selectivity is achieved by specific interaction of the contaminant with a catching material inserted in the transfer line [1, 2]: a quartz insert allowed the retention and the decay of alkali contaminants by controlling its temperature. The temperature dependence showed to originate from a longer effusion time, and higher decay, of the impurities by selective adsorption onto the quartz. The design of this transfer lines is presented. Alkali suppression factors are deduced from  $^{80}\text{Rb}$ ,  $^8\text{Li}$ ,  $^{46}\text{K}$  and  $^{126,142}\text{Cs}$  yield measurements. The enthalpy of adsorption for Rb and Cs is calculated from  $^{80}\text{Rb}$  and  $^{126}\text{Cs}$  suppression factors.

[1] E. Bouquerel et al., 'Purification of a Zn Radioactive Ion Beam by alkali suppression in a quartz line target prototype', *European Phys. Journal A* (in press).

[2] -K.L. Kratz et al., 'The Beta-decay half-life of  $^{13048}\text{Cd}82$  and its importance for astrophysical r-process scenarios', *Z. Phys. A325* (1986) 489.

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