

# Uranium Carbide Material Developments at CERN-ISOLDE

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UCx targets have long been used in ISOL-type facilities to deliver a large range of different radioisotopes. Such targets are also central in the operation of next generation facilities, such as SPES, HIE-ISOLDE, SPIRAL2, and ultimately EURISOL. Within the FP7-ENSAR Joint Research Activity ActILab a large collaboration, including members from CERN, GANIL, INFN, IPNO and PSI, is working on novel and innovative technologies to further improve the performance of this promising target material.

Activities at CERN involve the exploration of new kinds of material synthesis, online tests of recent types of actinide targets and finally comprehensive studies of structural, crystallographic and chemical evolution during target operation. In this context some developments will be presented, such as a recent feasibility study for applying micro probe investigations using synchrotron absorption spectroscopy to these materials and the results of a direct comparison between beams produced from classical UCx and micro grained high density uranium mono carbide targets tested at ISOLDE towards the end of 2010.

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