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Developments for SISAK experiments @ TASCA

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The successful SISAK experiments [1-4] with the short-lived Rf isotope ^{257}Rf at LBNL depended on using the Berkeley Gas-filled Separator (BGS) as a preseparator in front of the chemistry apparatus. Based upon the experience gained from these experiments, the SISAK group has been heavily involved in the development of Recoil Transfer Chambers (RTC) for TASCA. The RTC couples the separator to a gas-jet transport system and is mandatory for enabling chemistry experiments to be performed after preseparation.

So far only lead-targets were used in SISAK BGS experiments, this limits the available elements which can be studied to Rf and Db. This will change as transuranium targets for use with TASCA (and the BGS) becomes available - on-going development work on such targets opens up new possibilities for SISAK liquid-liquid extraction experiments.

This presentation will give a brief summary of plans for SISAK TASCA experiments in the upcoming years, based upon what is currently possible and what will be possible once new targets become available (e.g. ^{244}Pu targets).

References

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- [2] J. P. Omtvedt, et al., *Eur Phys J D* **10.1140/epjd/e2007-00214-6** (2007).
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- [4] L. Stavsetra, et al., *NIM A* **543**, 509 (2005).