

Spill structure simulations for GSI and FAIR

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Results of two topics are presented in this contribution.

The first one is the influence of some quantities on the spill quality of the KO extraction from the future GSI heavy ion synchrotron SIS100 studied with particle tracking simulations. This technique is still foreseen as standard slow extraction technique in SIS100. The results suggest that for such conditions the presently applied KO signal is a major source of spill micro structures. One peculiarity of the KO extraction from this synchrotron arises from its circumference of about 1 km and a spill recording with high sampling rates up to 100 kHz such that the revolution time is not necessarily much shorter than the time intervals of the spill measurement.

The second topic is related to transit times during tune sweep slow extraction from the present GSI heavy ion synchrotron SIS18. The width of their distribution supports the mitigation of spill micro structures. Hence, a transit time determination is desirable. A first attempt of that is presented.

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