ESR-CRYRING@ESR Coupling Engineering Run 2019

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Major topics to be investigated in the engineering run to prepare for the experiments in 2020.

- test beam instrumentation with the HCI
- check efficiency of the process to access if we have enough ions and life time for the experiment

As a preparation we will be running the local source basically all the time to make sure “everything “ works. Not part of this list is every preparatory work with the local ion source.

topic	**needs**	**measure**	**time/shifts**
optimize transport ESR-CRYRING	beam extracted from ESR at first screen, @4 ... 10 MeV/u or 1.4 Tm	beam size and intensities along HEST	1
optimize/match injecton into YR (0.8/ 1.4 Tm)		beam intensity on YR02DC1, YR07DC3, YR07DC3	1
optimize stored beam at injection energy, incl. orbit (0.8/ 1.4 Tm)		current on DC trafo, Schottky, AC trafo, BPM signal, IPM	1
setup cooling at injection energy		IPM, Schottky	1
measure lifetime w/o cooling		IPM, DC, Schottky	1
setup deceleration from 1.4 Tm to 0.8 Tm		DC, AC, Schottky, BPM	2
setup cooling at low rgidity		Schottky, AC, life time	1
measure lifetime at low energy		DC, AC, Schottky	1
Beam size/ position at 0.8 Tm		beam size with scrapers, IPMs, BPMs	1
Tune Meas. to determine space charge limits		Tune on BPMs with HF exciter kicks	1
Test detector setups (move, scrape, measure)		rate on detector for different conditions	1
			Σ 12 shifts (6 days!)