Beam Setup Plan February 2019

#	Title	Date	Shift	Ion	Target	Extraction	Energy [MeV/u]	Intensity	Coordinator	Participants	Beam Study #	brief description	boundary conditions / infos	
0	DryRun Unilac / SIS (+ pre-commissioning with beam)	07.02.							BK	Schicht		testing of all devices, machine preparation, first beam		✓
1	beam comissioning UNILAC to TK	11.02.	F / S / N	Ar					BK	Schicht		UNILAC commisioning with Ar Beam		✓
2	Operator Training	12.02.	F	Sn					BK	Schicht		training: beamsetup and adjustment for UNILAC		✓
3	Operator Training		S	Sn					BK	Schicht		training: beamsetup and adjustment for UNILAC		✓
4	Operator Training		N	Sn					BK	Schicht		training: beamsetup and adjustment for UNILAC		✓
5	Operator Training	13.02.	F	Sn					BK	Schicht		training: beamsetup and adjustment for UNILAC SIS commisioning with beam		✓
6	Operator Training		S	Sn					BK	Schicht		training: beamsetup and adjustment for UNILAC SIS commisioning with beam		✓
7	Operator Training		N	Sn					BK	Schicht		training: beamsetup and adjustment for UNILAC SIS commisioning with beam		✓
8	Operator Training / Beam Setup for Machine Studies	14.02.	F	Sn					BK	Schicht		training: beamsetup and adjustment for UNILAC HEST commisioning with beam	Main dipole power supply: switch to SIS12 mode from 8:00 - 11:00 Parallel: make FRS-interlocks visible	✓
9	Operator Training / Beam Setup for Machine Studies		S	Sn					BK	Schicht		training: beamsetup and adjustment for UNILAC HEST commisioning with beam		✓
10	Operator Training / Beam Setup for Machine Studies		N	C					BK	Schicht		preparation and beamsetup of C beam to HTP	keep settings	✓
11	Accelerator Optimization	15.02.	F 8:00 - 13:00	C	HHD	slow / fast	300	5,00E+08	RB (SIS18) + experienced UNILAC expert	Schicht		goal is to fine tune the match between UNILAC and SIS18	preparation of machine. Common activity for machine setup, machine development and beam study	✓
12	Mirko based SIS18 injection matching		F 13:00 - 15:00	C	HHD	slow	300	5,00E+08	Y. El Hayek	Schicht		continue fine tune the MIT w.o. cooling	preparation of machine. Common activity for machine setup, machine development and beam study	✓
13	BI Investigations in SIS18 / Positions,- tune,- TOPOS measurements / Closed Orbit Correction, Closed orbit feed back (slow)		S	C	HHD	fast	300	5,00E+08	B. Walasek-Höhne	SD, Schicht		BI new electronics setup, rad-hard camera test, (prio2: closed orbit feedback)	preparation of machine. Common activity for machine setup, machine development and beam study	✓
14	BI FAIR electronics tests		N	C	HTP	slow / fast	300	5,00E+08	M . Witthaus	SD, Schicht	BI-001-HTP	To test the electronics of the resonant transformer for FAIR high energy transfer line at HTP of HEST. No specific on ion species, and prefer to have several ion types as well as different ion intensities to study the dynamic range., (prio 2: IC calib. & LASSIE)		✓

15	Slow extraction spill quality, measurements of PC ripple, (what about the noise on electrostatic septum?)	16.02.	F	- 15:00	C	HHD	slow	300, up to energy corresponding to maximum rigidity of 18Tm	5,00E+08	D. Ondreka	P. Schmid,P. Forck, R. Singh	SIS18-001-AP	investigation on deflection angle of el. stat. ext. septum and measurement of acceptance of ext. channel, later: dedicated setup of SIS18 power convertor ripple and measure the spill quality simulatenously. See the presentation by Singh and summary of the mini Slow extraction workshop. measured in the past. Not conclusive. If a conclusive measurement can help to find the effective fix. BI experts in slow extraction spill quality are highly beneficial		✓
16	BI systems developments in "HTP"/HEST		S		C	HTP	slow / fast	varies	5,00E+08	R. Singh	SD, Schicht	BI-002-HEST	This is part of the HEST BI upgrade project. Needs to know the ipdated situation, Slow extraction: beam size + TE1DI1 used as detector		✓
17	BI Experiments		N		C	HTP	slow / fast	varies	5,00E+08	K. Lang	SD, Schicht		TOPOS test, (prio 2: test of resonant transformer)		✓
18	Acceleration with highest ramp rate, correction of radial position and close orbit, conservation of phase space	17.02.	F	- 13:00	C	HHD	fast	1000	5,00E+08	D. Ondreka	J. Stadlmann	SIS18-003-AP	To investigate beam performance with highest ramp rate. Ideally, aiming for Q1 2019 to gain experience for FAIR booster mode. For Q1 2019, ramp rate is limited to 4T/s		✓
19	BI system developments in HEST/ HADES beam line		S		C	HHD	fast	300	5,00E+08	R. Singh	SD, Schicht	BI-003-HEST	also part of the HEST BI upgrade AIP. This is more focused on the DAC system, while the BI-002-HEST is focused on the detector. For this particular part, it is aimed for the debugging of the Large analogue scaling system enviroment (LASSIE) alogorithem. The debugging can significantly improve the reliability of the HEST DAQ quality, which directly benefits FAIR phase 0 , (prio 2: Emittance meas. TH2)		✓
20	BI Experiments		N		C	HHD	fast	300	5,00E+08	P. Boutachkov	SD, Schicht		Scint. spec. , (prio 2: SEM RT/FCT comp)		✓
21	Commissioning new H=2 cavities	18.02.	F		C	HHD	fast	1000	5,00E+08	D. Lens	D. Ondreka	SIS18-002-RF	fine tune the sync between H=2 cavity with H=4 cavity	ESR - Dry-Run in parallel	✓
22	Beam preparation for HTA, HTC, HTM		S / N		C	HTA HTC HTM	slow			BK	Schicht		beam setup for HTA, HTC and HTM		✓
23	Synchronisation/phase control loop Rf devices/ Dual harmonic operation	19.02.	F		C	HHD	fast	1000	5,00E+08	D. Lens	Schicht D. Ondreka	SIS18-004-RF	fine tune the sync between H=2 cavity with H=4 cavity	Main dipole power supply: switch to SIS18 mode from 12:00 - 14:00	✓
24	Parallel beam performance test		S / N		C	HTA HTC HTM	slow			BK	Schicht		beam performance tests for parallel operation of THA, HTC and HTM		✓
25	Beam setup for Experiments	20.02.	F / S / N		C	HTA HTC HTM				BK	Schicht		beam setup for physics run		✓
26	Beam setup for Experiments	28.02.	F / S / N		Ag	HADES				BK	Schicht		beam setup for physics run - UNILAC hight performance tuning	Parallel activities on Cryring & ESR	
26	Beam setup for Experiments	01.03.	F / S / N		Ag	HADES				BK	Schicht		beam setup for physics run - SIS18 optimization		
26	Beam setup for Experiments	02.03.	F / S / N		Ag	HADES (HTD)				BK	Schicht		beam setup for physics run - Transferline Tuning if feasible, test a copied machine to HTD (up to 2h)		

26	Beam setup for Experiments	03.03.	F / S / N	Ag	HADES (HTD)	BK	Schicht		beam setup for physics run - Finetuning beam on target if feasible, test a copied machine to HTD (up to 2h)	

Legend:

training shifts
beam setup and fine tuning
beam study

beam setup for the upcoming beam time has absolute priority, so this plan might be subject to changes
details will be coordinated in daily noon meeting 12:45 in SE1.124 c
Changes to previous plan are marked in RED