

Day-1

Masahito Tomizawa: J-PARC

7×10^{13} ppp 30GeV, 8 GeV bunched SX for COMET

Instability during debunch mitigated but an issue for further beam intensity.

Verena Kain: CERN SPS

Started in 2021 after two years shutdown, max. 3.8×10^{13} ppp

Efficient ESS alignments algorithms, 20% loss reduction by ESS wires improvements

Spill macro shaping by COSE FF

SHiP

Matthew Fraser: CERN PS

PS SX has returned!

A lot of beam tunings (COSE、) are underway and planned.

A heavy ion radiation test facility.

Vladimir Nagaslaev: FNAL DR for mu2e

Spill time 43ms, high repetition, storage ring

Dynamic bump, thin ESS blades

Spill regulation by quads and RFKO (F.B.), ESS under construction

David Ondreka: FAIR, SIS18

FAIR construction well progressing, the tunnel will be soon ready

Spill improvements at SIS18, ESS status, SIS100 SX design

Day-2

Koji Noda: HIMAC

RF-KO AM+FM, Dual FMs(180deg), adding single f、 multiple energy SX

Marco Pullia: CNAO

phase jump, betatron core, RF-KO, Air core FB, chopping (RF-KO) , low intensity, multi energy
High frequency ripple injection, empty bucket

Cristopher Cortés: HIT

bunched SX, RF-KO, BTF to RF-KO spectrum -> duty=0.98 (50 μ sec res.)

Elena Benedetto: SEEIIST

x20 intensity, SC magnets curved coil (as an option), RF-KO

Rebecca Taylor: SX simulation for SEEIIST by SloexLab code

Visible slow extraction processes,
beam distributions on Steinback diagram

Kevin Brown:

High Energy Heavy Ion Facility Proposal at AGS

H to U, octupoles beam shaping, active filter, quads FB

Day-3

Michelangelo Pari: CERN

Spill simulations using Henon-map based
agree with measured data

Ryotaro Muto: J-PARC

F=60% by F.B. by quadupoles and F.F. by TRF (RF-KO)

Aakaash Narayanan: FNAL DR ($\mu 2e$)

Spill regulation study by PID, ML (Reinforcement Learning)

Stefan Sorge: SIS18

80MHz cavity planned,

Simulated Macro-structure shows a modulation by synchro-betatron coupling resonances

Ralph J. Steinhagen: SIS18, SIS100

cycle-to-cycle beam based feedback studies for macro-spill structure shaping

Pablo A. Arrutia: CERN

Henontrack Pari's code+ BLonD, spill simulation
of empty bucket channeling, (barrier buckets)

Rahul Singh, Peter Forck (GSI)

Weaker sextupole makes better spill (larger transit time, insensitive to the ripple)

Day-4

Bruno Balhan:

SPS ESS upgrades, beam loss, spark rate, e-cloud
anode temperature measurements

Jan Borburgh: CERN ESS high voltage tests

anode: WRE, SUS316L, Al-alloy, Ti-alloy, CNT
cathods: Anodised Al, gold plated Al, Ti

Yoshitugu Arakaki:

J-PARC ESS performances, single CNT wire test 20MV/m

Federico Roncarolo:

CERN SX diagnostics, SEM, BLM, Si, OTR, quartz、 、

Björn Galnander:

X-ray measurements to identify ISIS18 ESS electrode gap voltage

Plamen Boutachkov:

GSI fast scintillator development

Day-5

Francesco Velotti:

Combination crystal and octupole folding reduced the beam loss to 1/4

Yury Ivanov:

Bent crystals for the SPS crystal-assisted slow extraction at CERN

Single crystal and MVR crystals developments

Rotaro Muto:

Dual diffusers design for J-PARC

Beam loss became 42% by the first diffuser test.

Dale Prokopovich: MedAustron

unbunched and bunched COSE, MEE COSE

Francesco Velotti:

ML techniques at CERN

Application to crystals, beam dump, beam induced temperature, spill by hysteresis

Verena Kain:

Accelerator control by ML (RL) , numerical optimization

orbit correction, RF manipulations,,

SX facilities survey report (Florian Kühnleubl)

Discussion

- existing SX simulations codes listed (Kevin Brown)
- Impact to spill by LCR distributed circuit consisting of BMs or Quads and cables (M. Tomizawa)