

Summary of work done

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Status of PSP projects

Machine	Description	People	Status
Pre-Acc	Improve neutralization in LEBT with N or Xe.	Dan/Pat	Test stand needs modification. Not enough conductance to get vacuum below 1e-6 Torr.
Pre-Acc	Penning source from RAL is in Illinois!	Haider/Dan/Pat	Finally shipped from UK.
Pre-Acc	Laser collimation of head/tail of longitudinal beam. (LDRD)	Dave	In contact with vendor for selection of optical engine.
Pre-Acc/Linac	Simulation of PreAcc + Linac	Valeriy/Kiyomi/Dan	Scans were done during machine studies day (20 Feb). See Valeriy's talk today.
Pre-Acc/Linac	Checking efficiency with increased current in LEBT corrector	Kiyomi/Dan/Pat	Scan of LEBT correctors were done during study period (23 Jan 2019). To be completed during next study period in February.
Booster	Flat injection porch	Bill/Kiyomi/George/Howie/Chris	Machine studies on 24 Apr with new program in cogging card to improve amplitude jitter.
Booster	Adiabatic capture	Chandra/Tan	Machine studies on 24 Apr showed how we can improve phase and energy match between Linac and Booster with adiabatic capture curve. More tuning need.
Booster	2 nd harmonic	Robyn/Tan	In test cave. Cabling complete. Interlocks verified. Timings being tested. Greatest delay will be safety ORC (operational readiness clearance)
Booster	Wide bore cavities	Salah/Matt	Vacuum window replaced. Leak check ok. Machining holes for tuners. Tuners to be installed.
Booster	2 stage collimators	Valeriy/Chandra	Had meeting on 12 Dec 2018 to decide on the length of the primary collimator. Work to see amount of shielding needed for tritium control in sump water.
Booster	Injection girder and injector civil construction to Booster	Dave/Salah/ Tan	Meeting on 02 May. New lattice by Meiqin is good for Steve Hixon who will have 4.5 m to play with. May be problems with beam pipe on top of D magnet. Dave will measure fringe fields. Looking into vibro piling. Safety egress issues to be solved.
Booster	Garnet loss improvements	Robyn/Tan	08 May meeting. Preliminary cavity design for garnet test stand.
Booster	Mode 2 longitudinal damper	Nathan	First meeting on 29 Apr. Agreement with PIP-II that operations will do studies to understand the damping cavity requirements. Will do study before shutdown to get power requirements.
LLRF	GMPS machine learning (get rid of reference magnet)	Bill/Brian/Kiyomi	Got task codes (05 Apr). Work to start soon.
LLRF	Complete DDS upgrade, paraphase controller	Brian/Ed	24 Apr studies showed problems with delays. Will have to try again.
LLRF	Phase feedback	Brian/Ed/Bill/Tan/Valeri/Craig	Ed is nearly done with a first pass of the phase feedback at injection. Meet soon to discuss next step.

House keeping

Machine	Description	i/c	Comments
Linac	7835	Kiyomi	Good news! TCA for 3 tubes came back level 6. Will use 2018 money to refurbish these tubes. Division has signed off. Waiting for Directorate. Visiting Photonis.
Linac	Klystron refurbishment	Kiyomi/Bill/ Tan	Will visit L3.
Booster	BPM	Salah/Peter	Declared success on 8 March. Snapshot still needs work. TBT mostly ok.
Booster	Longitudinal coupled bunch mode dampers	Nathan/Bill	Testing has begun.

Wide bore milling and drilling (08 May 2019)

