Summary of work done

C.Y. Tan
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Status of PSP projects

Machine	Description	People	Status
Pre-Acc	Improve neutralization in LEBT with N or Xe.	Dan	Should have better results this time because of mass flow controller that we did not have previously.
Pre-Acc	Laser collimation of head/tail of longitudinal beam. (LDRD)	Dave	Work continues ...
Pre-Acc/Linac	Simulation of PreAcc + Linac	Valeriy/Kiyomi/ Dan	There are vertical exit angles from both source and RFQ. Dan is working on putting permanent magnets into the source to correct this angle. For RFQ, there is not enough dipole strength, but Valeriy's calculations say that quads should also be able to straighten out the beam.
Linac	750 keV collimator studies with very good efficiency, low loss beam in Booster.	Kiyomi/Dan/Pat	Data was taken with different collimator holes to see if halo removal was the reason behind good efficiency. With collimation is a lot better than without collimation in Booster. Emittance results are ambiguous. Improve emittance calculation.
Booster	Flat injection porch	Bill/Kiyomi/ George/Howie/ Chris	Work continues. Cabling up in LLRF room.
Booster	Adiabatic capture	Chandra	DC studies showed that we know how to do adiabatic capture. Initial results show 6.5% improvement in capture between operational and adiabatic curves. However, there are other mysteries in the RF that we saw ...
Booster	2^{nd} harmonic	Robyn/Tan	More cabling in the test stand. Tevatron modulator being modified. Test stand should be done before end of December.
Booster	Wide bore cavities	Salah/Matt	Casting being ground. Welding to begin 2 weeks.
Booster	2 stage collimators	Valeriy/ Chandra	Waiting for money from AIP or PIP1+
Booster	Injection girder	Dave	First orbump design to be completed in January. This drives size of D magnets.
Booster	Garnet loss improvements	Robyn/Tan	Waiting for LDRD approval.
Booster	Mode 2 longitudinal damper	Nathan	Requires new broadband cavity. Also need specs. (benefits PIP1+)
LLRF	GMPS machine learning (get rid of reference magnet)	Bill	Waiting for LDRD approval.
LLRF	Complete DDS upgrade, paraphase controller	Brian/Ed	Ed is learning the system.
LLRF	Phase feedback data analysis	Booster physics	DC open loop frequency response measurement shows possible problems. Valery, Bill and Tan looked at data. Need another measurement.

House keeping

Machine	Description	i/c	Comments
Linac	7835	Kiyomi/Tan	Under negotiation with HQ for how many new and refurb tubes we plan to buy.
Linac	Klystron	Kiyomi/Bill/ Tan	L3 is late in giving us cost estimate of rebuilds. Hopefully we will get cost estimates soon.
Booster	BPM	Salah/Peter	Progress with BPMs. Nearly there! TCLK decoding problems have been fixed. Still have cycle to cycle problems, i.e. 2 of the 6 crates have earlier time stamps by 133 ms compared to the 4 crates. Investigating ...