

V.Kapin: Telework summary (06Aug-29Sep 2020)

- 0) General activity –COVID, supplementary (not my subjects) – a lot of time! + LINAC20 conf, APT-seminars
- 1) RIL (LEBT+RFQ+MEBT) simulations (planning, software needed and start simulations)
 - Toward to 30mA LINAC: Kiyomi – add LEBT collimator (plate / iris) -> change/optimize input emittance for RFQ
 - a) 4-rod RFQ runs with CST (time/availability) – for scaled emittance (matched / collimated @ I_{inp} ; U_L ; W_{inj});
 - b) MEBT – optimized Q settings – test efficiency till LINAC end for each (Trace-3d => Parmila1 => CST);
 - c) LEBT - Trace2d for RFQ-matched / H-source emittance; Parmila1 with LEBT collim (plate/iris); CST model (?); gas focusing learning (via additional out/inp point with Trace2d; Parmila1);
 - d) Track LEBT collimated beams throughout RIL for “optimal” collimation, I_{inp} ; U_L ; W_{inj} , if found in above “a-c”.
- 2) New Booster Collimation Unit in Long 8 (post PDR activity)
 - Cabling & penetrations: info collected (VS, Mike Coburn) and documented => submitted to C.Y.Tan
 - Post PDR discussions with VS & DJ; formulation of approach (**local** w/ MARS vs **global** w/ MADX wo MARS) ;
 - Suggested modifications : 3 pairs of prim H&V; no need 2mm gap for SecCol in simulations (~~Tropin’s peak~~);
 - due to larger shielding (stacking, vacuum, etc.) REMOVE skew for Sec. Collim and primary rotations (???)*. => step-wise variation of total thickness, e.g. {2; 3.5; 3.5; 16}”; adjusting jaws along beam envelope w/o skewing
- 3) Understanding Booster C.O. (review principles c.o. applications for Booster) – collimators; extraction; IPM
 - Wait for Study: new BPM, BLM, IPM data @“**known conds**”; prepare a scanning mode for IPM (Jeff’s study)
- 4) MADX simulations for new D-magn @extraction: learned CO correction procedure for MADX with “fake” dipoles (?)
- 5) “IPM daily meas.” with \$15 and \$1D (test and compare LV, B78 & ACL by B.H) – wait beam
- 6) CST simulations for IPM to verify Shiltsev’s eqs (postponed); use eqs after (not B78, not LabView, not ACL)