

UCN and SCRF/ISAC interface issues

- proposal for UCN (CFI, 2008)
 - 10 μA at 25% duty cycle (1 min on, 3 min off)
 - use BL4A (TISOL)
- duty cycle is incompatible with ISAC targets, but may be necessary for low background for UCN experiments
- strategy for UCN (after discussions with SCRF/accel)
 - accept beam on BL4A when ISAC 2nd target station is off, or part-time during target development periods, or when e-linac in operation (This could be a substantial part of the BL4 time initially available.)
 - accept sole user status in low-intensity periods so that duty cycle can be achieved at source.
- space requirements in proton hall tight, but can be managed
- LHe source would not be common to e-linac, but could be housed in same space.

Future Upgrades (5YP and beyond)

- other options for duty cycle
 - fast kicker + local beam dump in hall
 - local shielding of dump required
 - reorganization of proton hall more appropriate to be on same time scale as ISAC 2nd target station
 - manipulation of internal cyclotron beams
 - requires further study
 - carbon stripper with mechanical motion in/out to pulse beam
 - difficult
- other options besides sharing BL4 with ISAC
 - two stripper foils on same extraction probe + septum
 - difficult, more appropriate for BL1
 - BL1, BL5
 - major reconstruction
 - (gamma,n) or photofission source of neutrons (Behr)
 - requires further study