HIDIce/UITF to do list 1/3/2020

Additional FSD nodes, some/all will be maskable

* Ragowski coil low current BPM, trip beam when position and current exceeds a value determined by Kevin's Labview program
* Halo counters at the dump
* Halo counters at upstream apertures
* Decarad? Will be installed but perhaps not used as FSD
* the dump magnet must be ON
* Superconducting IBC magnets must be ON, other protection required by ERR committee?
* Raster magnets must be ON
* some sort of vacuum guage at dump and near target, can be another ion pump current I guess

I&C stuff, Cable pulls:

* We need a frequency generator to drive the laser intensity modulator at 1 MHz
* We need a copy of the 1 MHz signal delivered to the lockin amplifier rack
* Aperture/stepper motor control (three of these, two near HDIce and one at Chopper)
* Two viewers behind HDIce
* New ADC card to read the SF6 pressure, per Scott Higgins’ request (the old XY566 ADC will be upgraded to a standard VMIc0979 board)
* Remote control of the pockel cell voltages, DAC wired to the EMCO HV bricks (we won’t use the fancy RTP driver that Caryn Palatchi has you building, not at UITF)
* Fibers (4?) from helicity board to the HDIce target
* Ethernet cable from halo counters to….?

RF group:

* Buncher 748.5 MHz, and then 1497 MHz
* Heaters added to buncher, cabled and fed to 120 VAC box, Hansknecht’s controller
* Get 1497 MHz buncher made, fine tuned to be resonant
* Buy 1497 MHz 400 W amp
* Yao cavity bunch length electronics, software

Phil:

* Install 6” blank gasket with 5 mm hole for conductance limitation, in case we vent something, gives us time to close valves to protect the booster
* Install manual valve on the elevated beamline, to make it easier to bake this line

Software related:

* Halo counters, need software, right?
* Some way to export Labview info to read via epics
* Raster magnets
* Stepper motor control apertures and chopper slit
* Pockel cell voltages via DAC

Computer control:

* Remote desktop to X computers inside Cave2
* Additional wall monitors?

RadCon:

* Shielding concerns, high current at dumps, proximity of HDIce electronics