4-Laser Commissioning HCO WITHOUT LOCK-UP, HVPS OR BEAM

**LASER SYSTEM INSTALLATION**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| *Task* | *A* | *B* | *C* | *D* |
| Install seed/pre-amp chassis |  |  |  |  |
| Pull fiber from ISB pre-amp to amp |  |  |  |  |
| Install amplifier |  |  |  |  |
| Install remote reset chip |  |  |  |  |
| Install PPLN |  |  |  |  |
| Install attenuator |  |  |  |  |
| Install tune mode generator |  |  |  |  |
| Install laser shutter |  |  |  | n/a |
| Install IA |  |  |  |  |
| Install A/B, C/D splitters and cube |  |  |  |  |
| Install pickoff camera |  |  |  |  |
| Install IHWP |  |  |  |  |
| Install Pockels cell |  |  |  |  |
| Install RWP |  |  |  |  |
| Install PSS shutters A/B |  |  |  |  |
| Install steering lens |  |  |  |  |

**LASER SERIAL COMMUNICATIONS UPGRADE**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| *Task* | *A* | *B* | *C* | *D* |
| IPG (on/off, set/read power, reset) |  |  |  |  |
| PPLN (on/off, set/read, reset) |  |  |  |  |

**LASER ALIGNMENT CHECKLIST**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| *Task* | *A* | *B* | *C* | *D* |
| Define 250/499 seed/pre-amp values |  |  |  |  |
| Rotate and lock fibers |  |  |  |  |
| Align PPLN |  |  |  |  |
| Align attenuator |  |  |  |  |
| Align tune generator max extinction |  |  |  |  |
| Center laser shutter aperture |  |  |  |  |
| Align IA/waveplate |  |  |  | n/a |
| Combine A/B/C/D common axis |  |  |  |  |
| Image pickoff on camera |  |  |  |  |
| Center laser in irises |  |  |  |  |
| Align IHWP |  |  |  |  |
| Align Pockels cell CP |  |  |  |  |
| Align RWP |  |  |  |  |
| Center in PSS shutters |  |  |  |  |
| Center in steering lens |  |  |  |  |
| Retroreflect photocathode |  |  |  |  |

**SCAM + MACROPULSE TESTING**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| *Task* | *A* | *B* | *C* | *D* |
| Install Macropulse chassis |  |  |  |  |
| Install macropulse I/O (PSS/BCM/FSD/Key) |  |  |  |  |
| Install SCAM I/O(Line In, Beam/Trigger Out, VME) |  |  |  |  |
| Load SCAM ioc software |  |  |  |  |
| Assign Hall D attenuator channel | n/a | n/a | n/a |  |

**SCAM TESTING**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| *Task* | *A* | *B* | *C* | *D* |
| Line In : Beam Sync, Pre-Trigger v. Delay |  |  |  |  |
| Clock In : Beam Sync, Pre-Trigger v. Delay |  |  |  |  |
| Stand. Mode: (off,vl,tune,cw) v. master |  |  |  |  |
| Expert Mode: User Mode 1 |  |  |  |  |

**LASER MEASUREMENTS**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| *Task* | *A* | *B* | *C* | *D* |
| CW max power |  |  |  |  |
| Tune/VL extinction on scope |  |  |  |  |
| Coincident irises, combiner, spiricon |  |  |  |  |
| Measure size spiricon |  |  |  |  |
| Measure degree CP |  |  |  |  |
| QE scan photocathode |  |  |  |  |

**HIGH LEVEL APPS AND SCREENS**

* Screens
	+ Tools
	+ CIS screens (John)
* Update high level apps with Hall D functionality
	+ QE Scripts
		- QE Measurement
		- QE-Tool
		- QE-Analyzer
	+ Bleedthrough
	+ Bunchlength
	+ Laser Attenuator Calibration
	+ Surface Charge Limit
	+ ?

4-Laser Commissioning LOCKUP, HIGH VOLTAGE, BEAM TESTS

**PSS Certification (3 days)**

* See ATLIS/Procedure

**PCUP CW Setup (2 shift)**

* Test beam modes (A/B/C/D) vs. IPM S/H on scope (0.5 shift)
	+ VL v. trigger, timing parameters
	+ TUNE v. trigger, timing parameters
	+ CW
	+ Expert v. User Mode 1 timing parameters
* Test beam modes (A/B/C/D) v. usual diagnostics (0.5 shift)
* Viewer
* BPM
* Harp
* ItoV
* Cups

**FC1 CW Setup (A/B/C/D) (2 shift)**

* Chopper setup (3/4 beams)
* Measure bunch profile
* Minimize bleedthrough

**FC2 CW Setup (A/B/C/D) (3 shift)**

* 3-beam setup for Fall program (A/B/D)
* Setup to FC2 when possible
* Mott measurement

**PQB Tests (X shifts)**

* Tests TBD