2012 U-U Run Start-up Plan

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2012 April 17, RHIC run timing meeting

General Schedule

- We planned 4 days for dedicate machine setup.
- First over-night store for detector setup is on Monday OWL shift.
- At that point, at least 56*56 bunches, bunch intensity as high as we can get from injectors.

April 19 (Thursday): Injection setup

April 20 (Friday): ramp development

April 21 (Saturday): collision setup

April 22 (Sunday): ramp / store fine tuning

Shift-by-shift work Plan

Day 1: April 19 , Thursday

>> DAY shift: (Vahid)

6 hours (tunnel access) :

- **RF 9MHz cavity gap shorting**
- **AGS-RHIC synchro**
- **Pre-beam setup (control, instrumentation, Gpm, pet...)**

2 hours (tunnel secured) :

- **PS work**

>> EVE shift: (Greg)

2 hours :

- **PS work** (continuing)

6 hours :

- **hysteresis ramps**
- **ATR tuning**
- **RHIC injection**

goal: circulating beams

Day 2: April 20 , Friday

>> OWL shift: (Chuyu)

2 hours:
- **RHIC injection** (continuing)

6 hours:
- **RF capture (LLRF)**
- **instrumentation setup**
- **tune/coupling/orbit feedback setup at injection**

goal: bunched beams

>> DAY shift: (Vincent : Al, Michiko, etc.)

Ramp development

8 hours:
- **ramp development**
- **chromaticity measurement & modifying on ramp**
- **transition cross chromaticity optimization**
- **orbit excursion reduction on ramp**
- **minimize beam loss on ramp**
- **chromaticity measurement at flattop (radial shift)**

goal: 90% ramp efficiency of 28*28 bunches

>> EVE shift: (Gang)

6 hours:
- **RF re-bucketing**
- **fine tune ramp**

2 hours:
- **sequence to collide beams**

goal: re-bucketing done
sequence to collide

Day 3: April 21, Saturday

>> OWL shift: (Mei)

8 hours:
- **store tuning**
- **IR steering**
- **working point scan**
- **chromaticity setting**
- **automatic store orbit correction**
- **10 Hz orbit feedback**

goal: decent store lifetime with at 28*28 bunches

>> DAY shift: (Guillume: Greg, Angelika)

2 hours:
- **injection drift correction**

6 hours:
- **ramp collimation**
- **store collimation**
- **fine tune ramp / fine tune store**
- **increase bunch number (28 ->56)**

goal: 56*56 bunches with >90% ramp transition
collimation on ramp done
acceptable background at store

>> EVE shift: (Xiaofeng : MCR, Al)

Begin Stochastic cooling setup
Fine tune injection / ramp / store
- **reduce loss on ramp**
- **reduce orbit excursion on ramp**
- **increase bunch number (56->87)**

goal: 87*87 bunches with >90% ramp transition

Day 4: April 22, Sunday

>> OWL shift: (Vahid : MCR, Angelika)

Stochastic cooling setup
Fine tune injection / ramp / store
– fine tune injection, ramp, store
– fine tune ramp /store collimation
– increase bunch number (87->111)
goal: 111*111 bunches with >90% ramp transition
longitudinal stochastic cooling

>> DAY shift: (Yue : Mei, Rob, Al, Chris, MCR)

Fine tune Store
6 hours:
– BPM TBT timing tuning
– store optics measurement
2 hours:
– local coupling correction
– IR nonlinear correction
goal: store optics measured, store well tuned

>> EVE shift: (Chuyu : MCR)

Stochastic cooling setup
2 hours:
– vertical dispersion correction
6 hours:
– Stochastic cooling setup
– push bunch intensity
goal: transverse stochastic cooling

Day 5: April 23, Monday

>> OWL shift: (Vincent : MCR)

Detector setup , Stochastic cooling