



# 9mA studies update

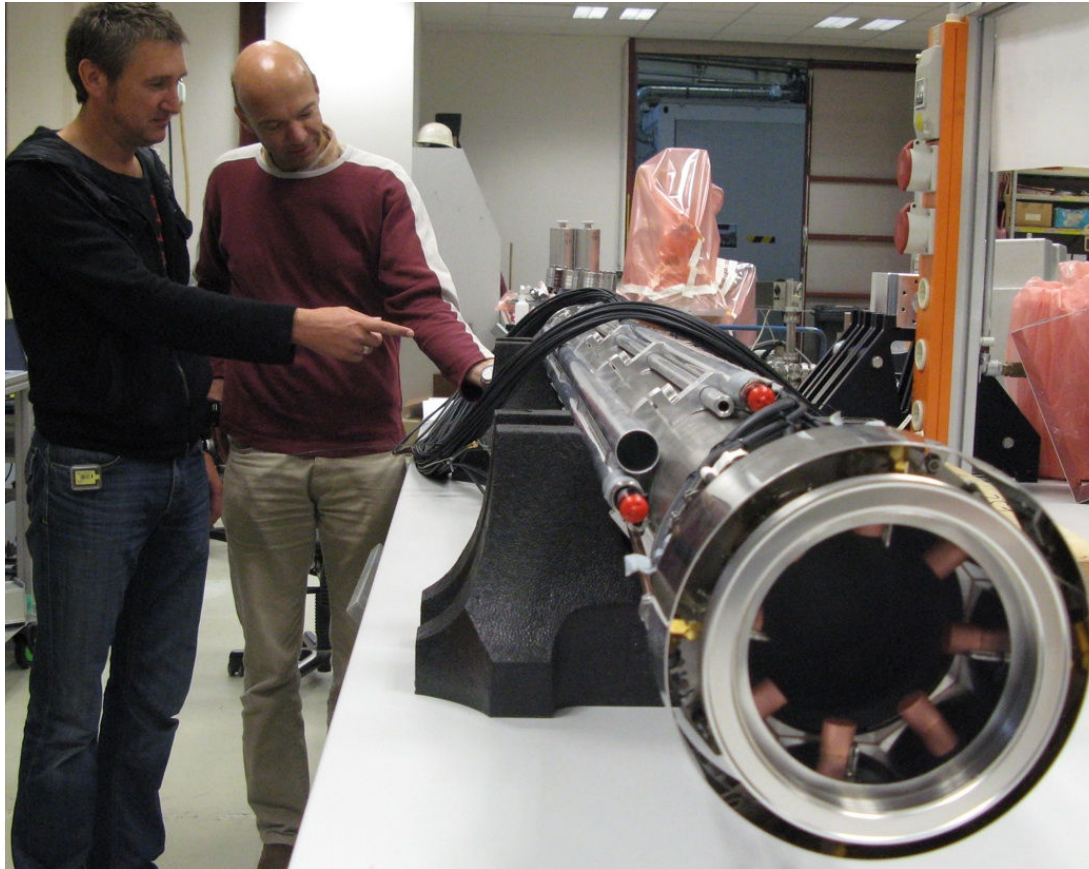
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- **Dump line is repaired! (now pumping down)**



# LLRF / RF-only studies for KW35 (week of Aug 24<sup>th</sup>) – in progress

## *Commissioning & Checkout items*

- ACC456 SimconDSP system checkout & commissioning
- ACC5 + ACC6 Piezo systems checkout & commissioning
- ACC23, ACC1 startup, Gun RF startup
- Characterize ACC1, 23, 456 LLRF systems performance
- DAQ checkout & commissioning: data streams + tools
- Test remote participation tools: video conferencing into BKR
  
- ATCA system RF-only checkout, preparation for beam tests

## *RF-only studies*

- RF power ratio adjustments to reduce peak power to ACC6 Cav 2
- Loaded-Q studies – precursor to high gradient studies
- High gradient no-beam studies to quench limits
- Open loop cavity jitter measurements with/without piezos – part of rf overhead studies

# Beam studies start Sept 7<sup>th</sup>

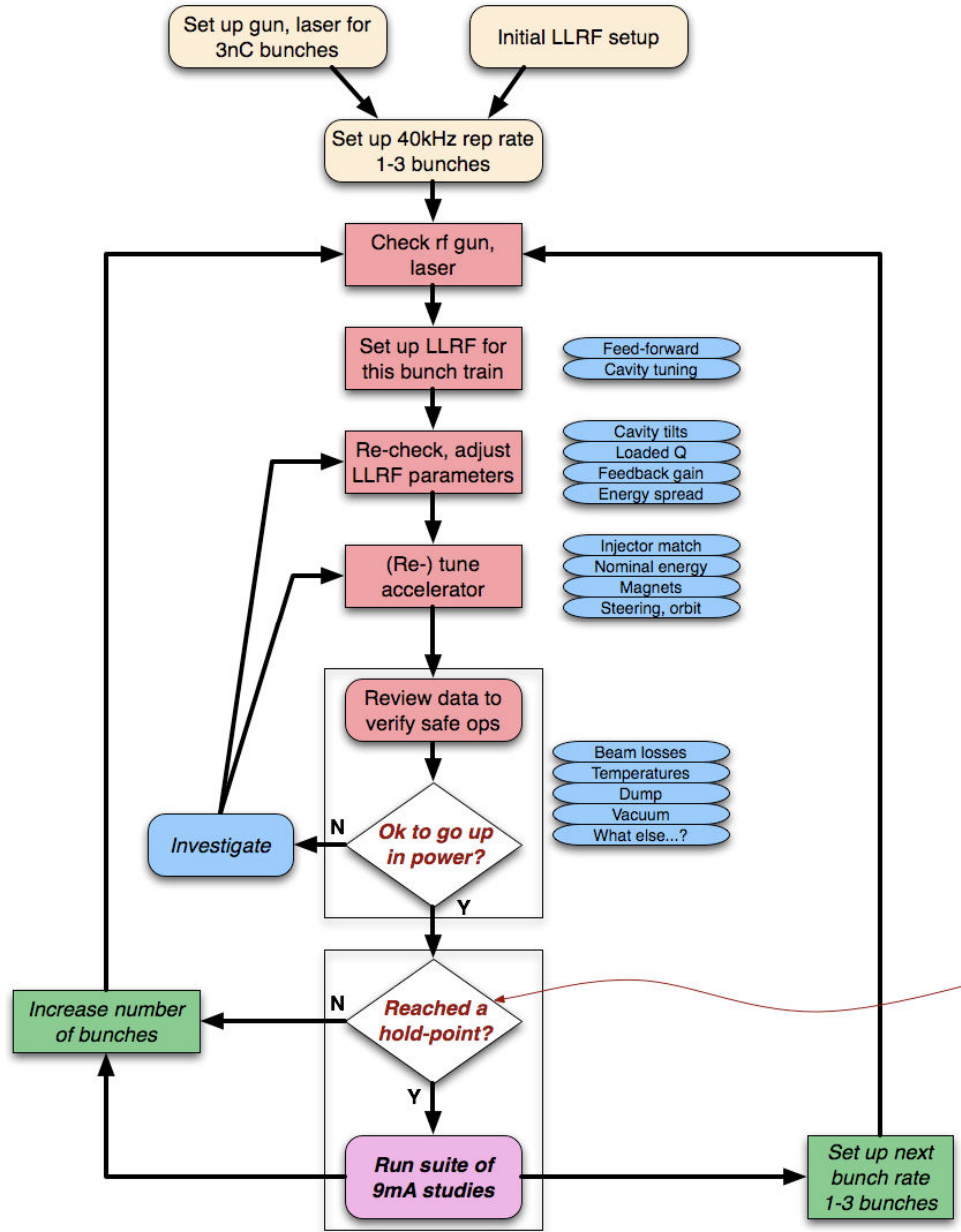
- **First week**

- Gun startup – 3nC / bunch, eventually 3MHz
- Diagnostics commissioning
- Low-loss transmission of 3nC/bunch to dump
- Characterize energy aperture, non-linear dispersion correction
- Start ramping up the power (“conservative gradient”)

- **Second week**

- Continue ramping up power: 36kW the goal
- Go to higher gradients and high power
- If time allows: some shifts for studies using high power beam

# 9mA high power ramp-up

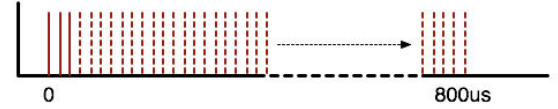


40kHz (1-3 bunches, then step-by-step go to 32 bunches)



Intermediate step (1-3 bunches, then step-by-step go to 32 bunches)

1MHz (1-3 bunches, then step-by-step go to 800 bunches)



3MHz (1-3 bunches, then step-by-step go to 2400 bunches)



**Milestones / hold-points**

**Bunch length, beam current**

- 3mA, 550 bunches
- 3mA, 800 bunches
- 9mA, 150 bunches
- 9mA, 2400 bunches

**Beam power:**

- 2KW
- 6KW
- 12KW
- 18KW
- 36KW