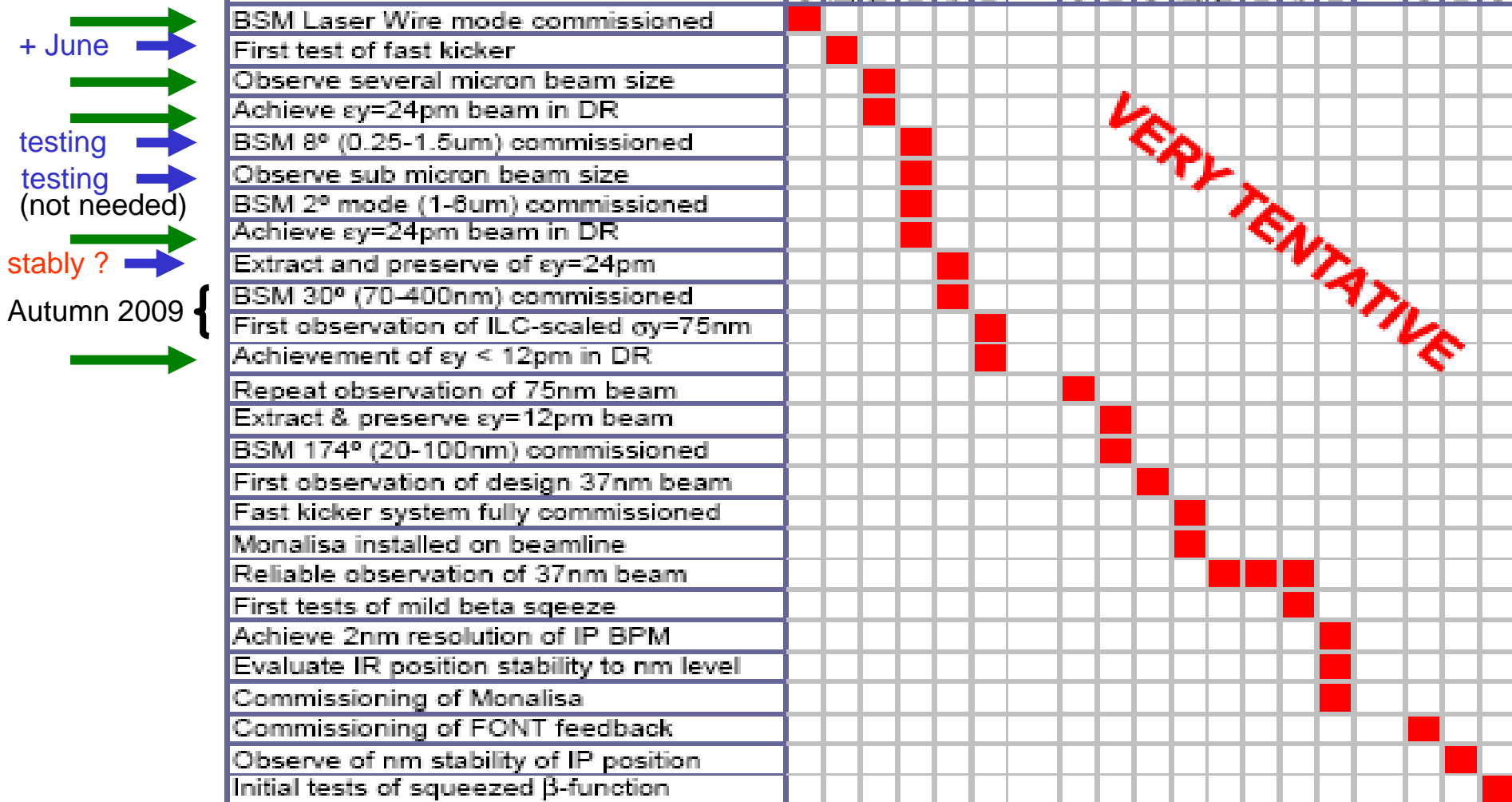


# Plan and priorities for the next ATF2 commissioning periods


Philip Bambade  
LAL & KEK

# ATF2 milestones



1. Very useful to guide logical sequencing of commissioning tasks
2. Demonstrate  $\sigma_y < 100 \text{ nm}$  end of 2009 – reproducible nominal  $\sigma_y \sim 37 \text{ nm}$  end of 2010
3. Full realisation of all technical goals may extend beyond 2010

# Commissioning periods



May 2009	→ 3 weeks
October – December 2009	→ 7 weeks
January – June 2010	→ 14 weeks
October – December 2010	→ 7 weeks (extrapolation)

## Beam time scheduling

→ 50% fraction for ATF2 & 4 days per week operation

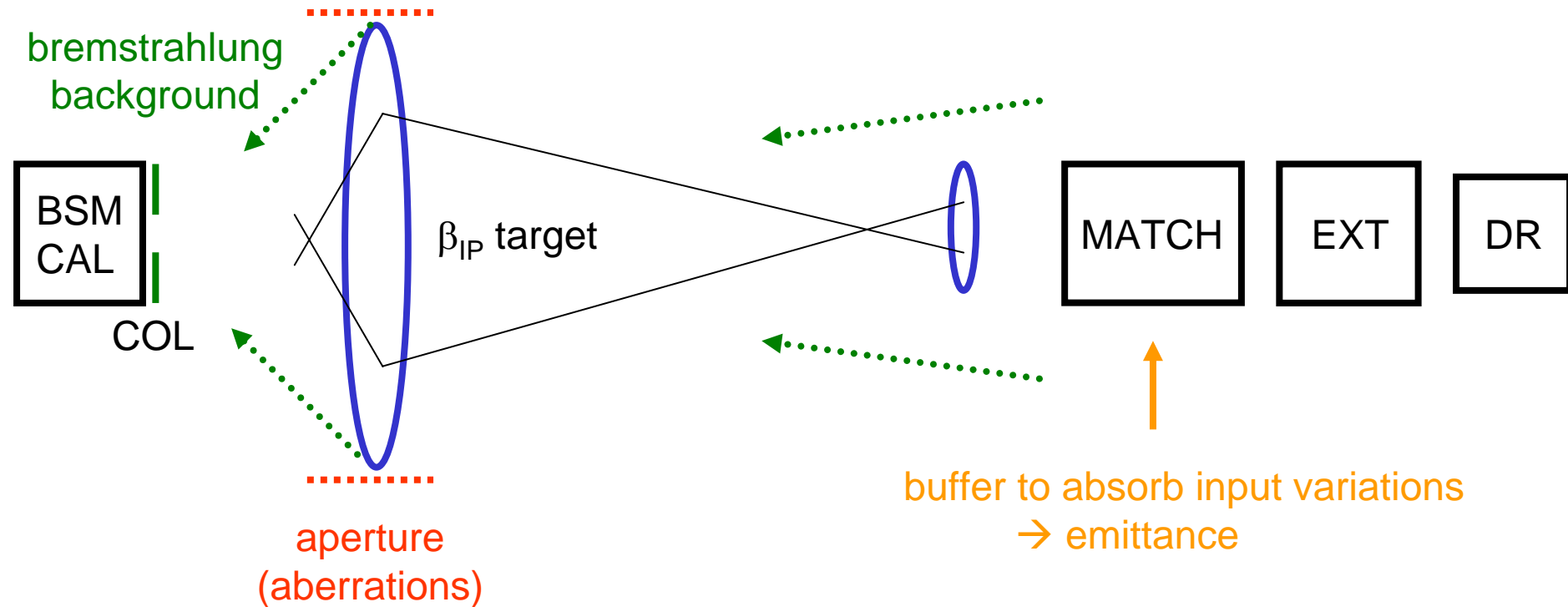
## Participating groups

KEK, Tokyo, SLAC, IHEP, UK, France, Spain, CERN,...

## ATF2 educational goal

→ several PhD theses & young post-doc researchers

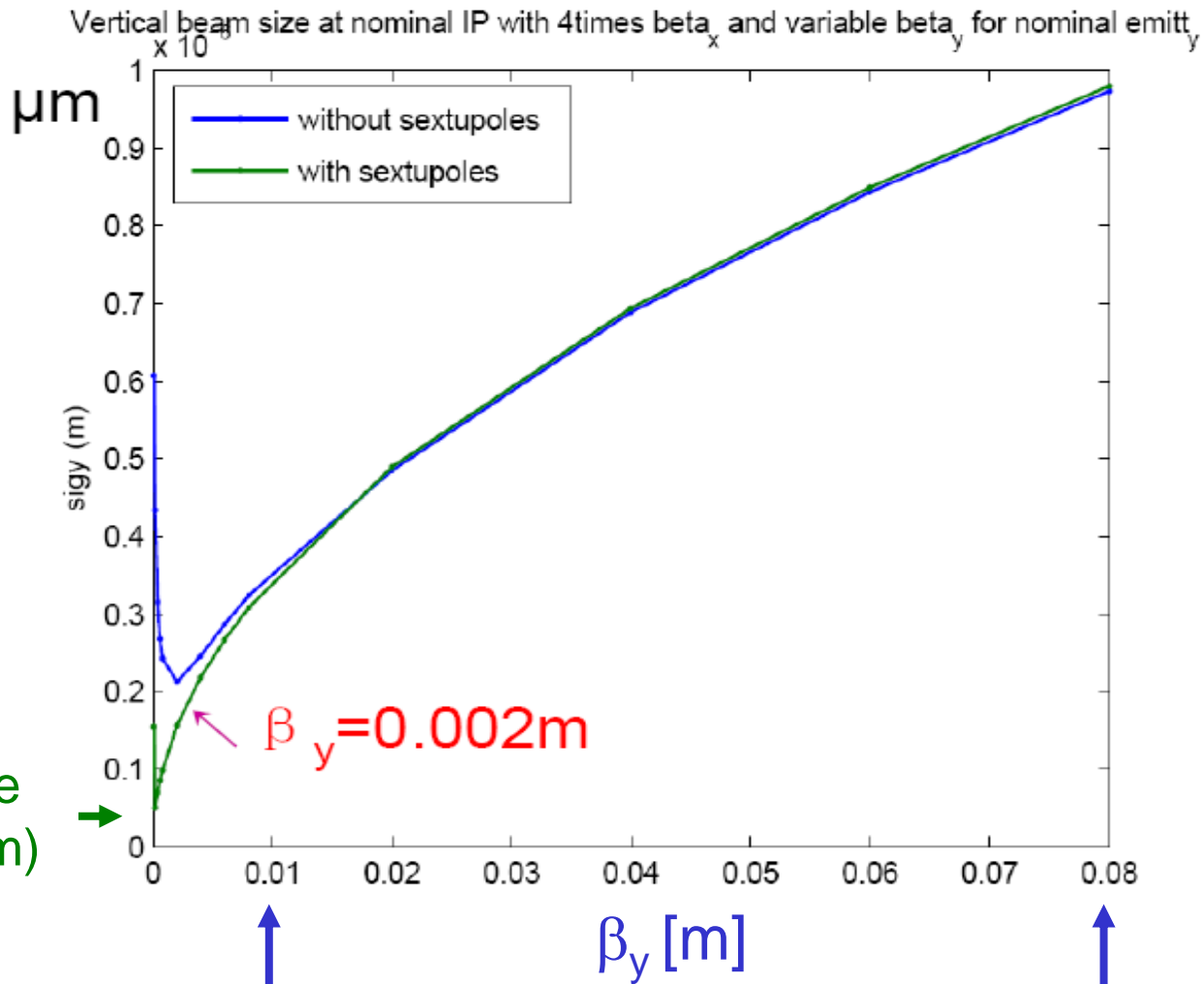
# Conceptual picture of ATF2 telescope



Gradual  $\beta_{x,y}$  reduction → paced by progress with beam tuning instrumentation (BSM & other)  
background study

Initially : provide diagnostic beam for hard- / software commissioning

# Variable $\beta_{IP}$ at ATF2

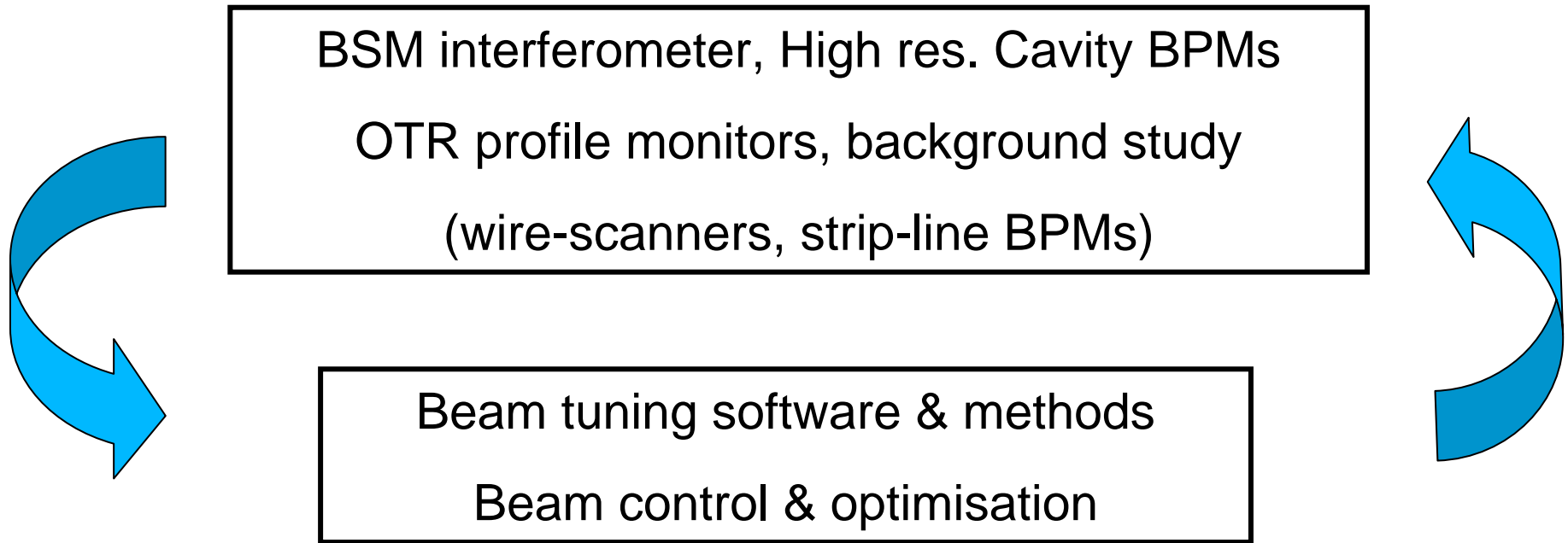


nominal value  
( $\beta_y = 0.0001\text{m}$ )

April'09 target

March'09 target

# Coherent scheduling of inter-dependent tasks → stable conditions & setup



## OUR CHALLENGE

now : independent task & team efforts → need to learn keep stable & joint setup during block of shifts each week, uninterrupted by non-ATF2 work

# Main priorities for 2009-2010

May 2009

8 degree mode BSM

$$\rightarrow \sigma_y \sim 0.3 - 2 \mu\text{m}$$

reproducible EXT setup

$$\rightarrow \varepsilon_y < 40 \text{ pm}$$

October – December 2009

174 (or 30) degree mode BSM

$$\rightarrow \sigma_y \sim 100 \text{ nm}$$

January – June 2010

optimisation of chromatically

corrected tuned beam spot

$$\rightarrow \sigma_y \sim 40 \text{ nm}$$

October – December 2010

reproducibility & stability

first go at reduced  $\beta$  optics

# Task list (not prioritised)

- multi-OTR scheme
- study & improvement of stripline BPMs
- enlarged beam pipe upstream of FD
- instruments for bkgd study
- software integration & training including FS
- install all 4 skew quadrupoles (re-position 1 and 4 ? probably not needed)
- .....