Summary of discussion at the session of the ATF2 2nd goal at ATF2 the project meeting, 13-14 January, 2011.

This summary is an input for further discussion to have a full agreement.

1. Goal (the 2nd ATF2 goal)
Demonstration of nanometer stabilization at ATF2 by end of March, 2013

(a) 2 low-Q IPBPMs without brazing, each of which has two cavities
(b) electronics of the 2 IPBPMs (X/Y readout in 4 cavities)
(c) IP chamber with a rigid support of the two IPBPMs and the IPBSM
(d) kicker and FONT-electronics

2. Milestones
(1) now to summer, 2011
KNU : production of the electronics version 2 with the beam test
        and design of low-Q IPBPM without brazing
KEK : design of IP chamber where two sets of IPBPMs and IPBSM are installed.
Oxford univ. : FONT5 and design a configuration of IP feedback system
YoungIm's PhD : high resolution study of IPBPMs at the upstream beam
        to investigate issues to achieve the resolution of less than 8.7nm
        , where most issues are independent of the electronics
          and type of IPBPM

(2) Autumn 2011 to end of March 2012
KNU : Experimental evaluation of the electronics version 2
        and design and production of the upgrades if needed
        High resolution study taken over by KNU
          purpose : verification of resolution of less than 8.7nm
                  (low Q IPBPM and the electronics)
KNU : Continue designs of IPBPM
KEK : Continue designs of IP chamber and kicker
Oxford univ. : Continue designs of IP feedback system

(3) December 2011 or January 2012, ATF2 project meeting
Interim review of the IP feedback system with a following criterion
position resolution is less than 10nm

(4) April to July 2012
KNU : production of two IPBPMs and the electronics
KEK : production of IP chamber and kicker
Oxford univ. : production of IP feedback system

(5) August to September 2012
Installation of the IP feedback system (IP chamber, kicker and electronics)

(6) October 2012 to end of March 2013
Experimental study of IP feedback at the ATF2 beam line
2-bunch train will be sufficient for the IP feedback demonstration.

3. Note on vertical beam sizes at the IPBPMs
IPBPM-2,3 is 79.2mm from the IP and the second one(IPBPM-1,4) is 81mm
beta = beta* + s^2/beta*
beta (79.2mm) = 0.1 + 79.2^2/0.1 = 62726.2 mm, sigma_y= 27.4um
beta (81mm) = 0.1 + 81^2/0.1 = 65610.1 mm , sigma_y= 28.1um
emity = 12pm
Is the beam jitter scaled by the beam size ?