Request for MDs in the SPS from SPSU SG and RF Group

1. Problem with ZS - what can be done before?

 **(A) LHC beam:**

 25 ns bunch spacing

 (1) Scrubbing run (+ZS studies)

 (2) Beam loss studies (flat bottom) - (e-cloud or TMCI?):

 - measurements during scrubbing run and in following MDs with "reference" conditions"

 - effect of transverse emittance, chromaticity, working point, voltage

 - compare 25 ns and 50 ns spacing, different number of batches

 (3) ZS and MKDH with ABT Group

 (4) e-cloud studies in coated and uncoated magnets

 (5) maximum emittance blow-up for high intensity beam (RF team)

 50 ns bunch spacing

 - MKDV

  **(B) Single bunch (parallel MD cycle when possible):**

 (1) Inject maximum longitudinal brightness N/emit and maximum N

 Measure the threshold of the TMCI as a function of

 - chromaticity

 - voltage

 - double RF system settings

 - transverse emittance

 (3) Longitudinal instability in a single and double RF system

 - variable intensity, constant other bunch parameters, 5s (or max) long

 flat bottom

 **(C) Maximum single and total intensity possible from injectors (any number of bunches) - joint MD with PS and PSB**