The discs were closed when the IR measurements were made on the 12 April. The IR sensors had already been tested insitu but of course the values were out of range as the discs were open at ~3.5m. The IR sensor is limited to 30cm. The 5 IR sensors were aimed at different parts of the adjacent CSC. The data , bit number, taken was then compared to the calibration data taken in 904 using identical cables and similar reflective surfaces (the CSC covers). The values obtained differed by 10 - 40mm wrt what had been calculated for these 3 different areas. Even the 3 sensors over

The discs were closed and locked when the IR measurements were made on the 12 April. The IR sensors had already been tested insitu but of course the values were out of range as the discs were open at ~3.5m. The IR sensor is limited to 30cm. The 5 IR sensors were aimed at different parts of the adjacent CSC. The data , bit number, taken was then compared to the calibration data taken in 904 using identical cables and similar reflective surfaces (the CSC covers). The values obtained differed by 10 - 40mm wrt what had been calculated for these 3 different areas. The 3 sensors over the CFEB cover gave differences of ~5mm which could be taken as reasonable but the absolute value is 40mm off the calculated value to the CSC. As a result of these very poor values manual measurements taken at the outer R of the disc. These agree within 2mm of the inner R values also done manually and are therefore taken as reliable. The manufacture has been contacted for his comments on residual magnetic field altering the readings of the IR sensors. The conclusion is that we have a good understanding of the space in between the yokes YE2 and +3. This will be now discussed with IO to come to and agreement on exact disc and chamber position and dimensions. The failure of the IR system to give good results is technically not clear. Greater time for preparation with greater time for insitu trials would surely have helped. Responding rapidly to this deception has in fact produced results almost as good. Trials with the B field can only be performed with these sensors once trials in a "B" field outside CMS have been carried out and these initial bad results are explained. Concerning the RE4 gap definition I think that manual measurements would be sufficient if access is given to the inner R area. Experience from RE4 SM installation shows that there was more space than understood and so we can use this to further improve our understanding of the RE4 Z volume.