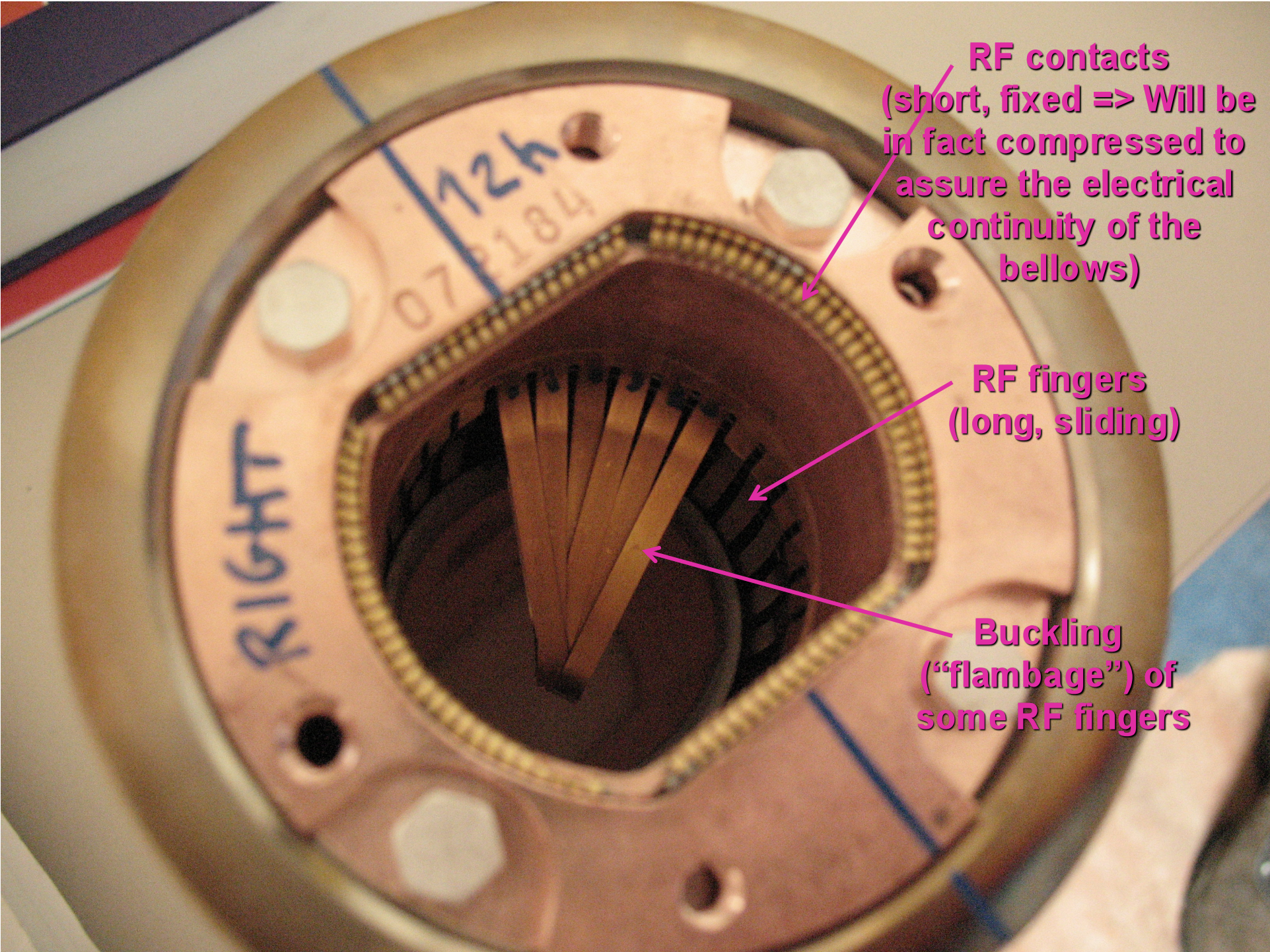


DISCUSSION ON THE LHC PIMs (22/09/2010)

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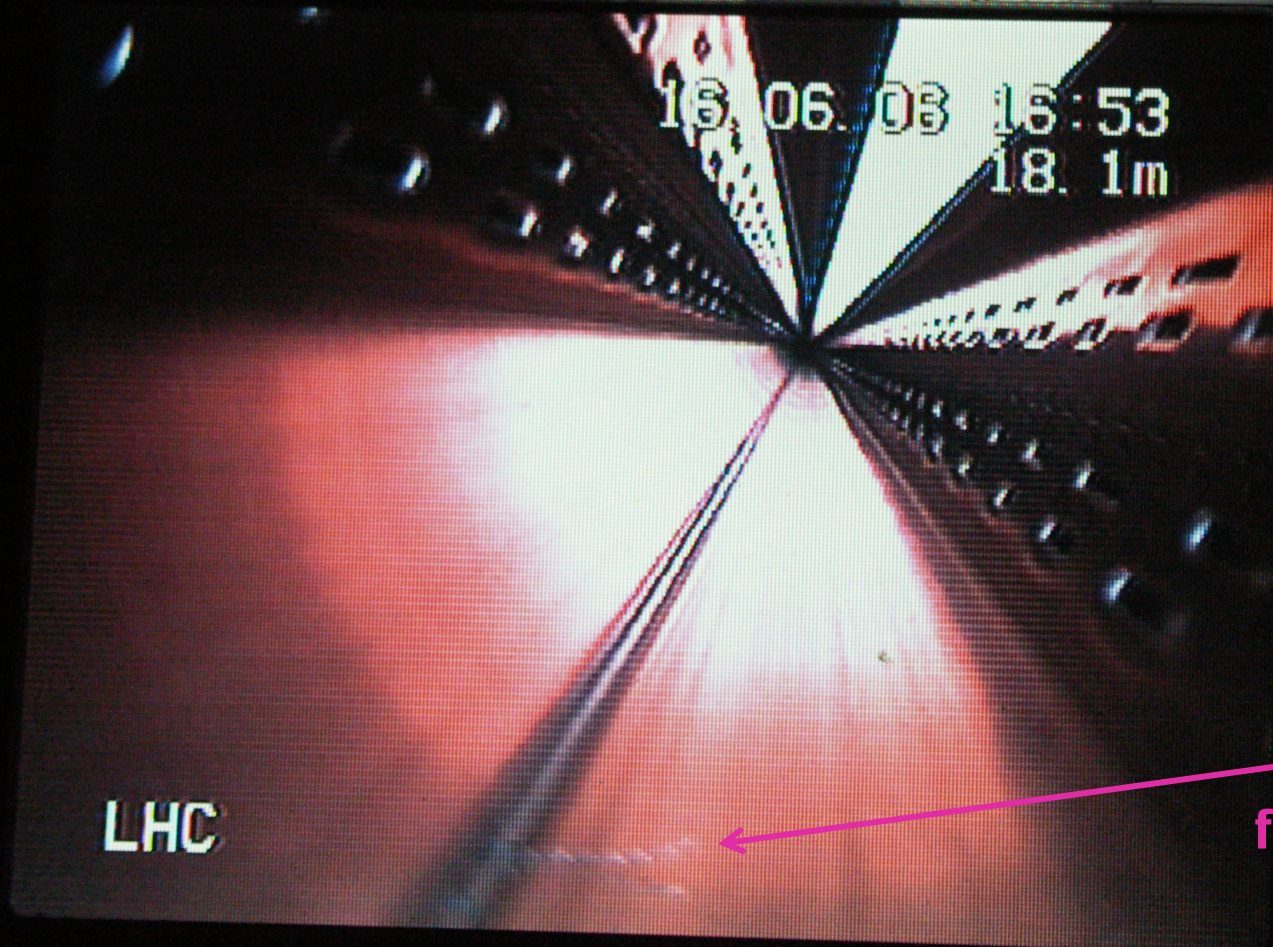
- ◆ **Questions:**
 - **What can/should we do for the RF contacts of the LHC PIMs when the machine will be opened?**
 - **If we see some small plastic ribbons, what do we do? (Most probable question which might arise in the future)**
- ◆ **Answer: Nothing particular to be done => Try and remove what is seen and can be removed...**



RF contacts
(short, fixed => Will be
in fact compressed to
assure the electrical
continuity of the
bellows)

RF fingers
(long, sliding)

Buckling
("flambage") of
some RF fingers



This picture from endoscopy shows a small plastic ribbon

Reminder of the buckling (“flambage”) of RF fingers

- ◆ This was discovered in the past by chance, always at the same places (revealing a type of PIM) and it was understood that this issue came from a design problem
- ◆ Solution proposed => Displace all the SSS by 2 mm. This was done and it reduced considerably the number of bucklings of RF fingers
- ◆ Now, if we warm up a sector, the latter is then tested with the RF ball (ping-pong ball) => This is an additional constraint for the cryo: it needs to remain below 80-100 K (above these temperatures we introduce some plastic deformations)
- ◆ All the interconnects will be opened and the vacuum group wanted to replace all the PIMs, i.e. $\sim 200 * 2 * 8 = 3200$
- ◆ The current plan is to replace (as a preventive measure) the PIMs on the SSS with vacuum barrier, i.e. ~ 14 per sector (1 out of 4 SSS) $\times 2 \times 8 = 224$ PIMs in total => Will be done during the 2012 shutdown

Concerning the RF contacts

- ◆ **Are we sure they are playing their role correctly? Is the pressure correct?**
- ◆ **It was already seen by endoscopy (with this means it is possible to see up to ~ 50-100 m) that some of them (1 or 2) were broken and some of them could even reduce the beam aperture (by ~ 1-2 mm)**