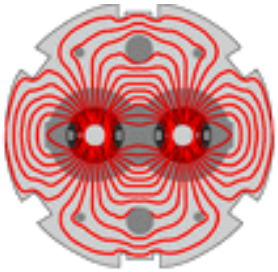

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Consequences of warm-up of a sector above 80K

Wednesday, 4 February 2009 10:40 (20 minutes)

There may be circumstances when a sector has to be partially or totally warmed-up to temperatures above 80 K, that is when thermal dilatation starts to play a role. Some equipment have been identify as presenting a risk, like the non-conform “plug-in” modules in the arcs. Because of motion induced by thermal dilatation, the electrical (ElQA) quality control may also have to be done again after cool-down.
The main reason identified so far for partial warm-up is the required maintenance of the cooling towers and the cryogenics plants. There is also the request from the vacuum group to periodically warm-up the beam screen to temperatures in the 100 K region to release and pump-out the gas crysorbed on the surface of the beam screen.
Observed and expected temperature conditions and statistics on failures of PIMs in sectors which have been warmed-up will be presented in this contribution. Methods to detect buckled PIMs will be described, as well as a recommended strategy for consolidation. Finally, the required electrical quality controls will also be described.

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