Contribution ID: **51** Type: **not specified**

Update on calculations of max. excess resistance allowed as a function of energy for the case of prompt/semi-prompt/adjacent quenches

Tuesday 25 January 2011 17:25 (20 minutes)

Operating at 3.5 TeV with defective 13 kA joints is based on twofold safety: 1) it is extremely unlikely that a magnet quench will propagate to the interconnect, and even if this occurs, 2) it is extremely unlikely that the joint will burn through, assuming the measured distribution of defective joints. Above 3.5 TeV, the currents become sufficiently large to burn a defective joint, and for safety one therefore has to rely on non-quenching the joints. In this presentation I will focus on the possibility of thermal-electrical quench propagation through the bus from a quenching magnet to the interconnect. Simulations will be supported by quench propagation measurements recently performed in SM18.

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Session Classification: Session 04 Beam Energy