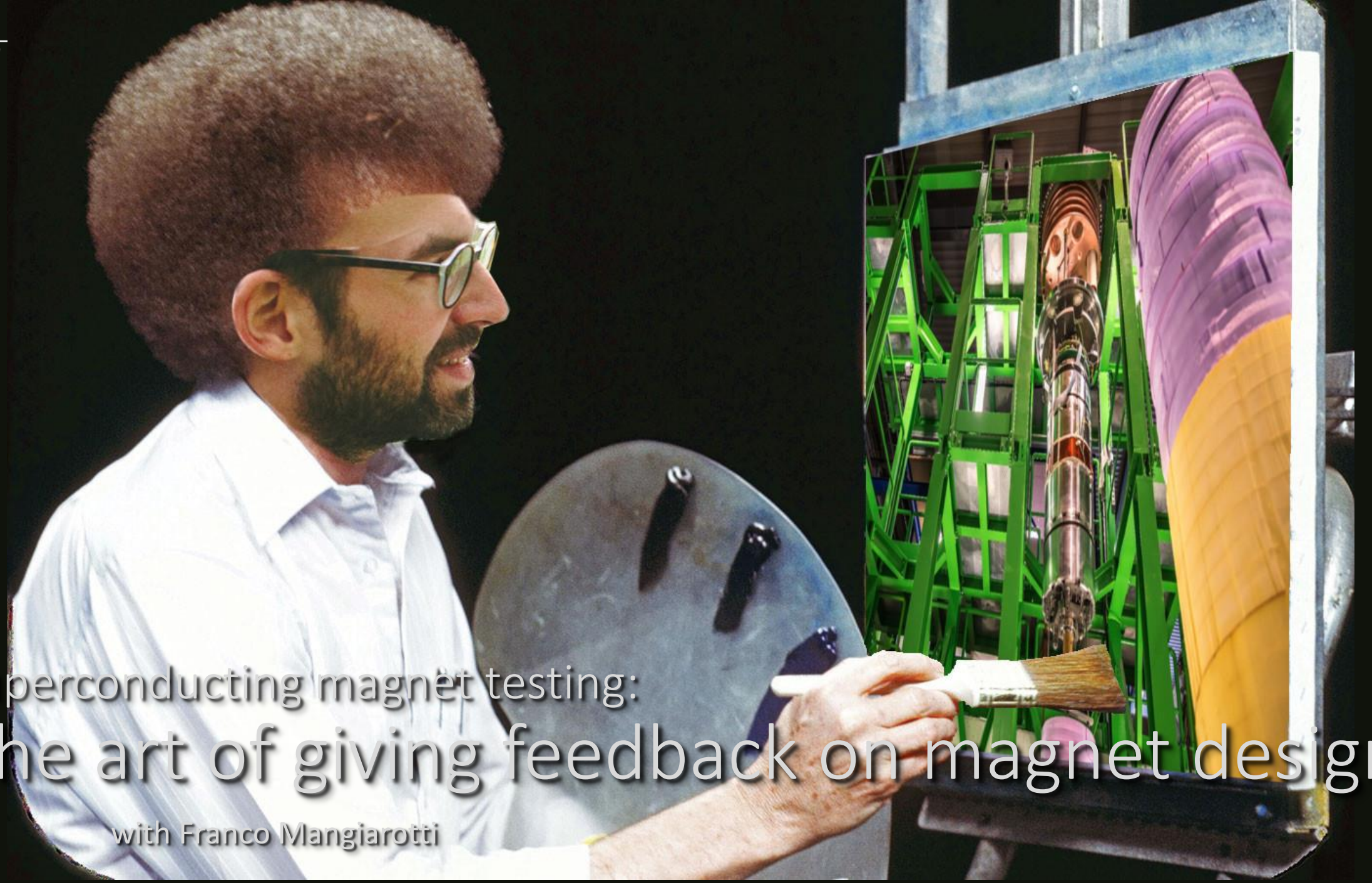
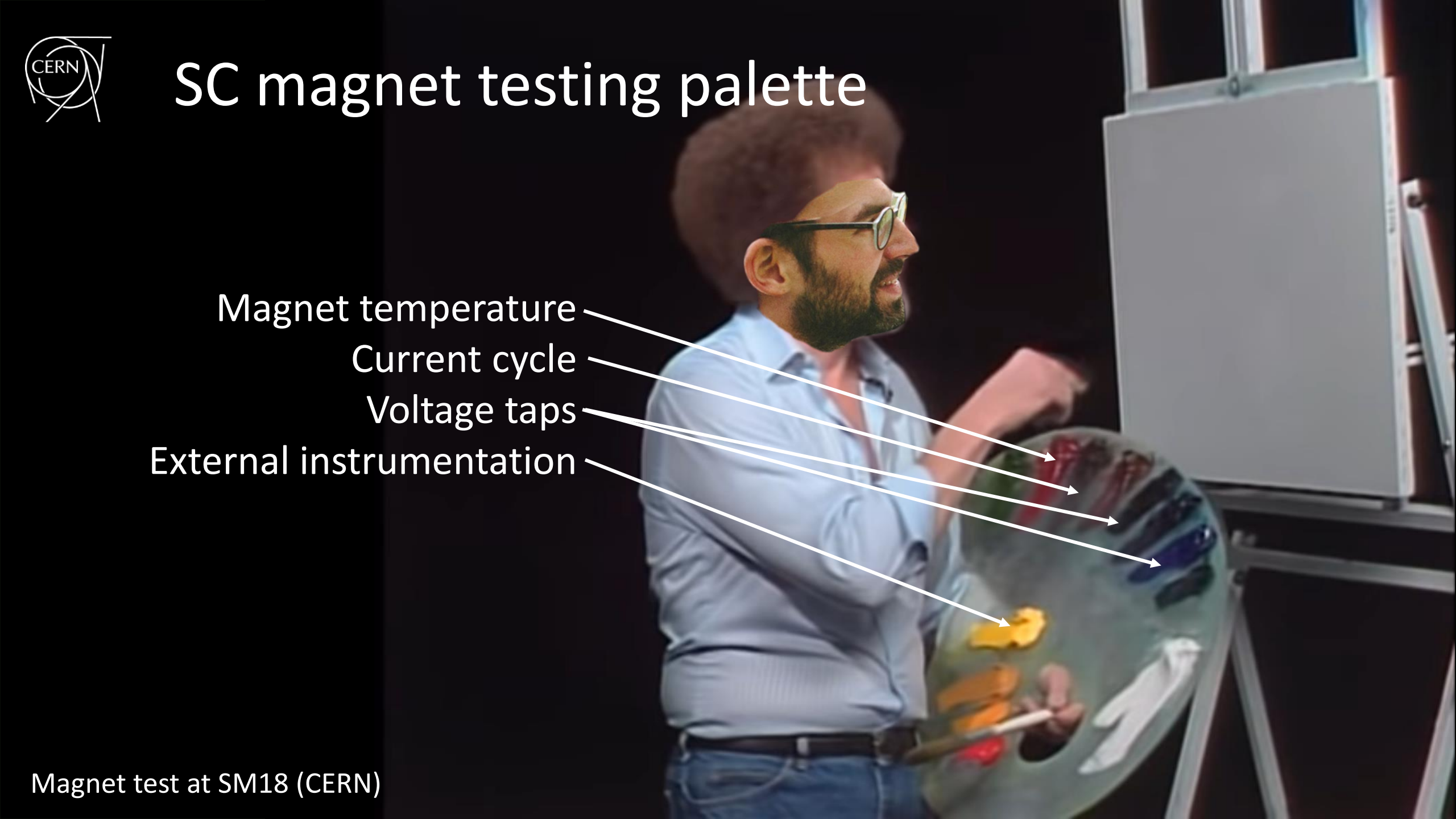


Superconducting magnet testing:

The art of giving feedback on magnet design

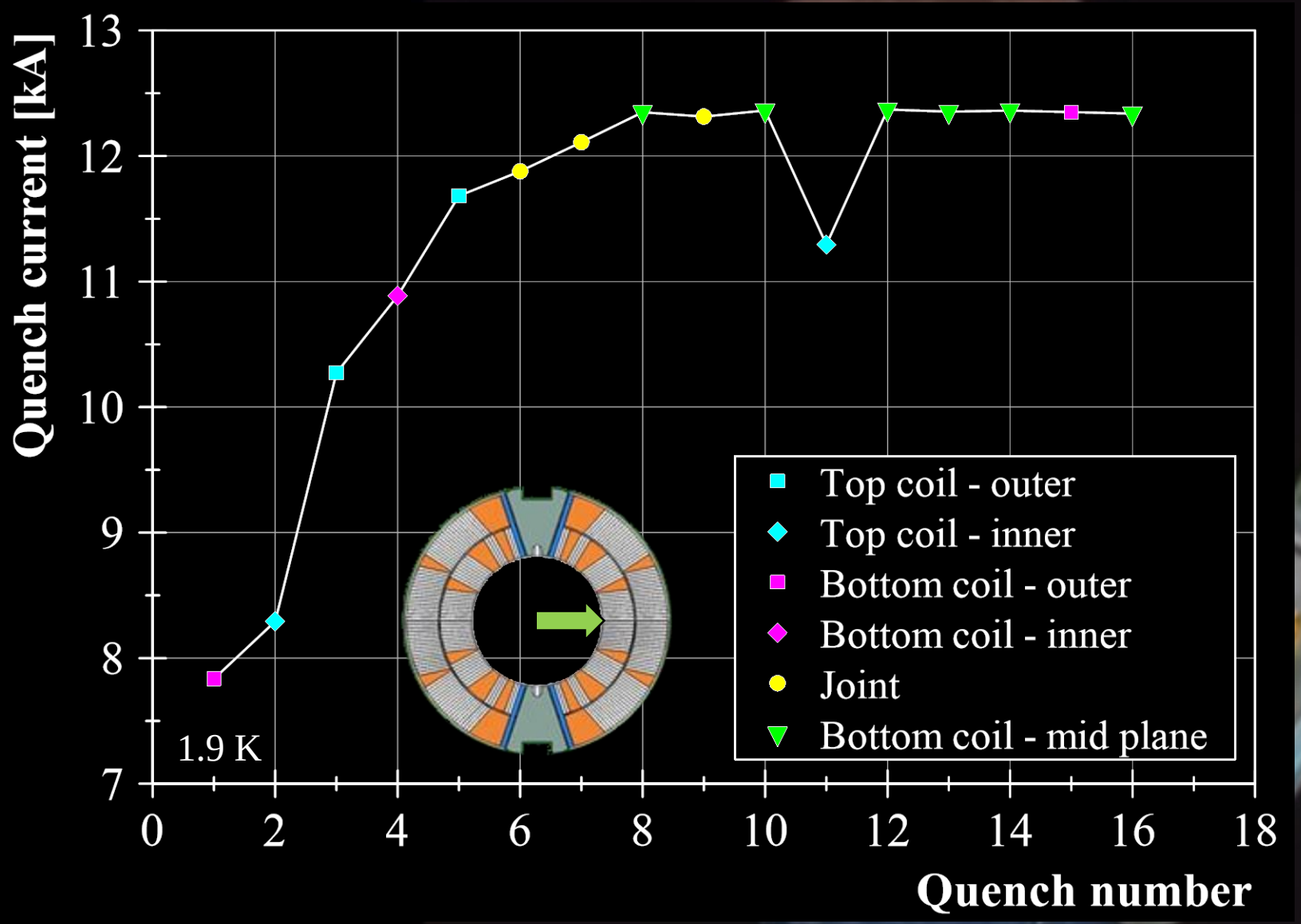
with Franco Mangiarotti

SC magnet testing palette

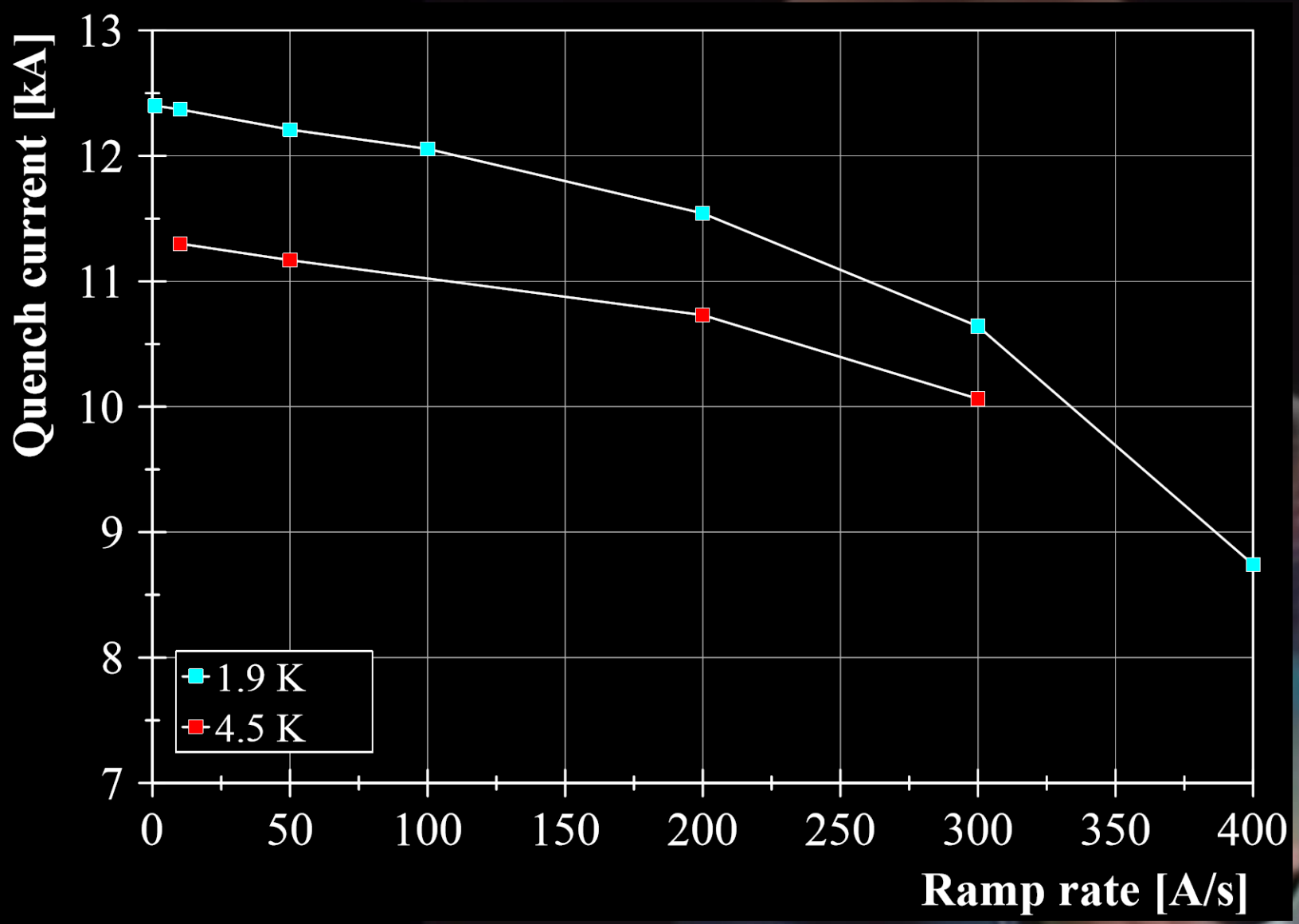


Magnet test at SM18 (CERN)

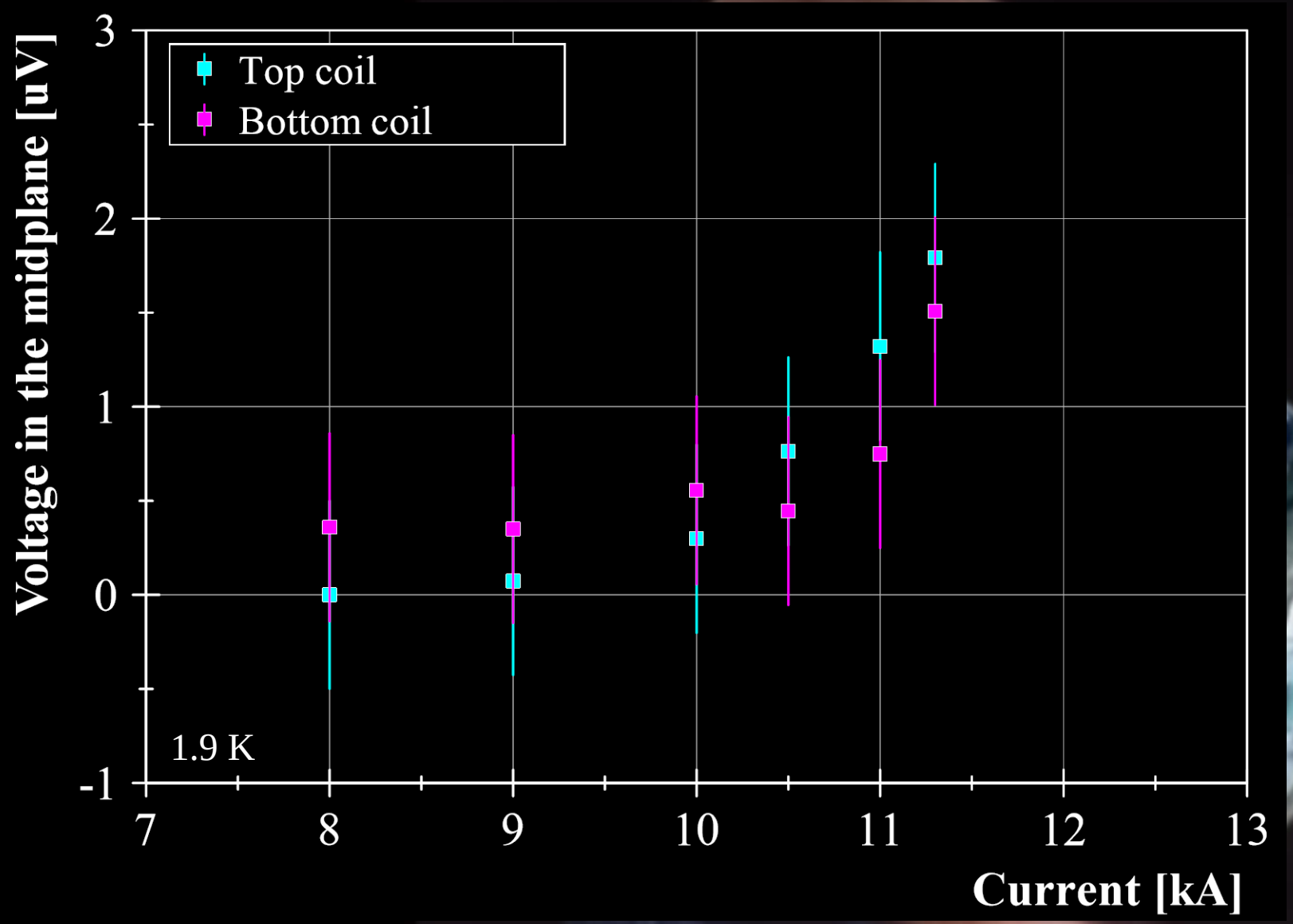
Mid plane quench limitation



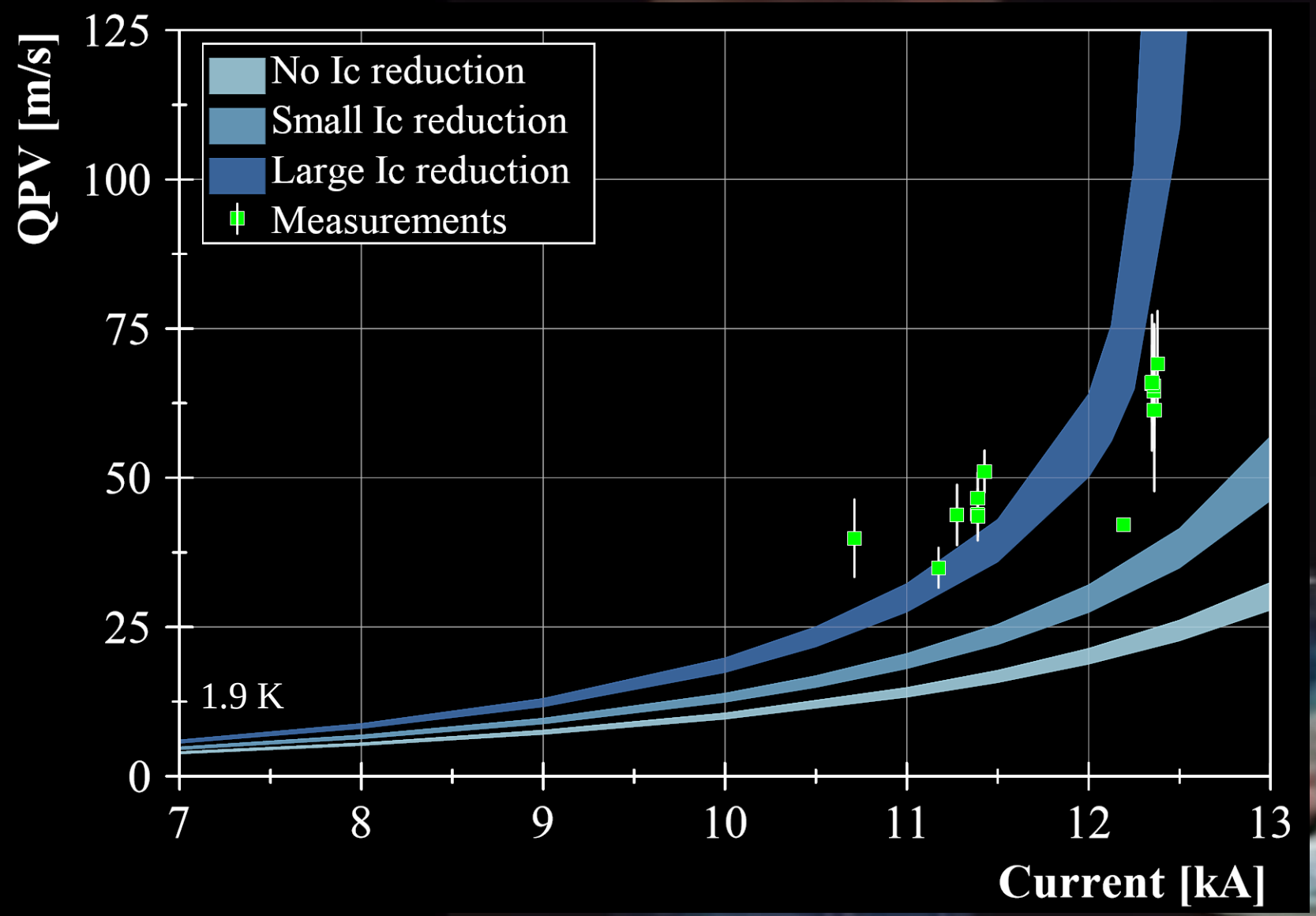
Ramp rate studies: low quench level



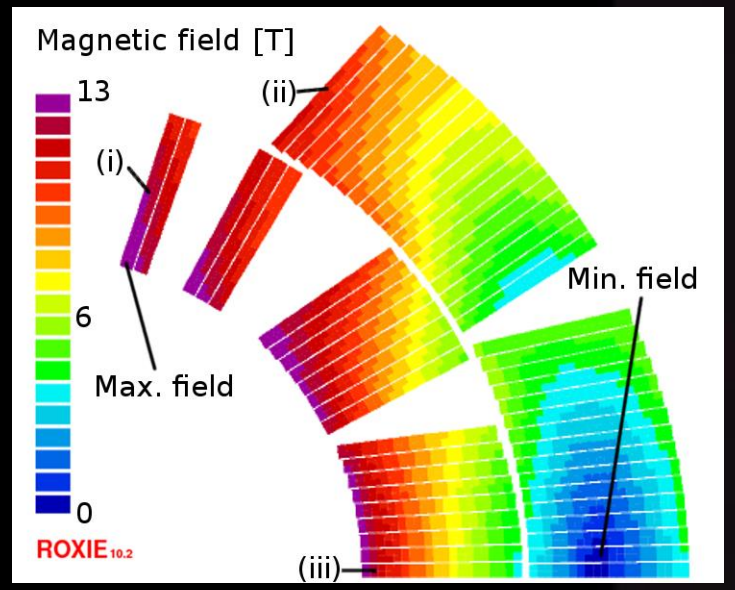
Early SC → normal transition

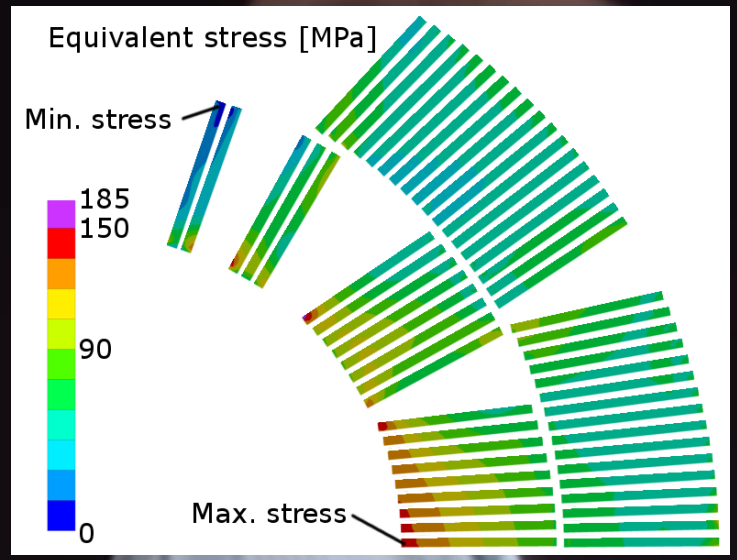


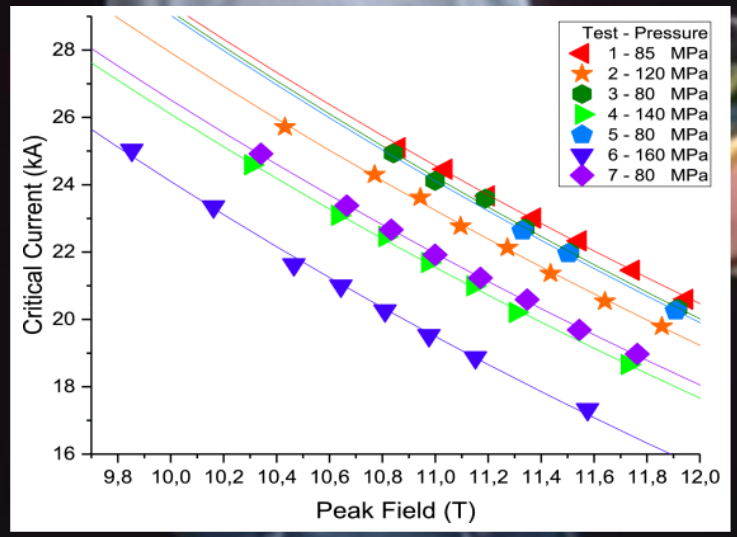
High quench propagation velocity



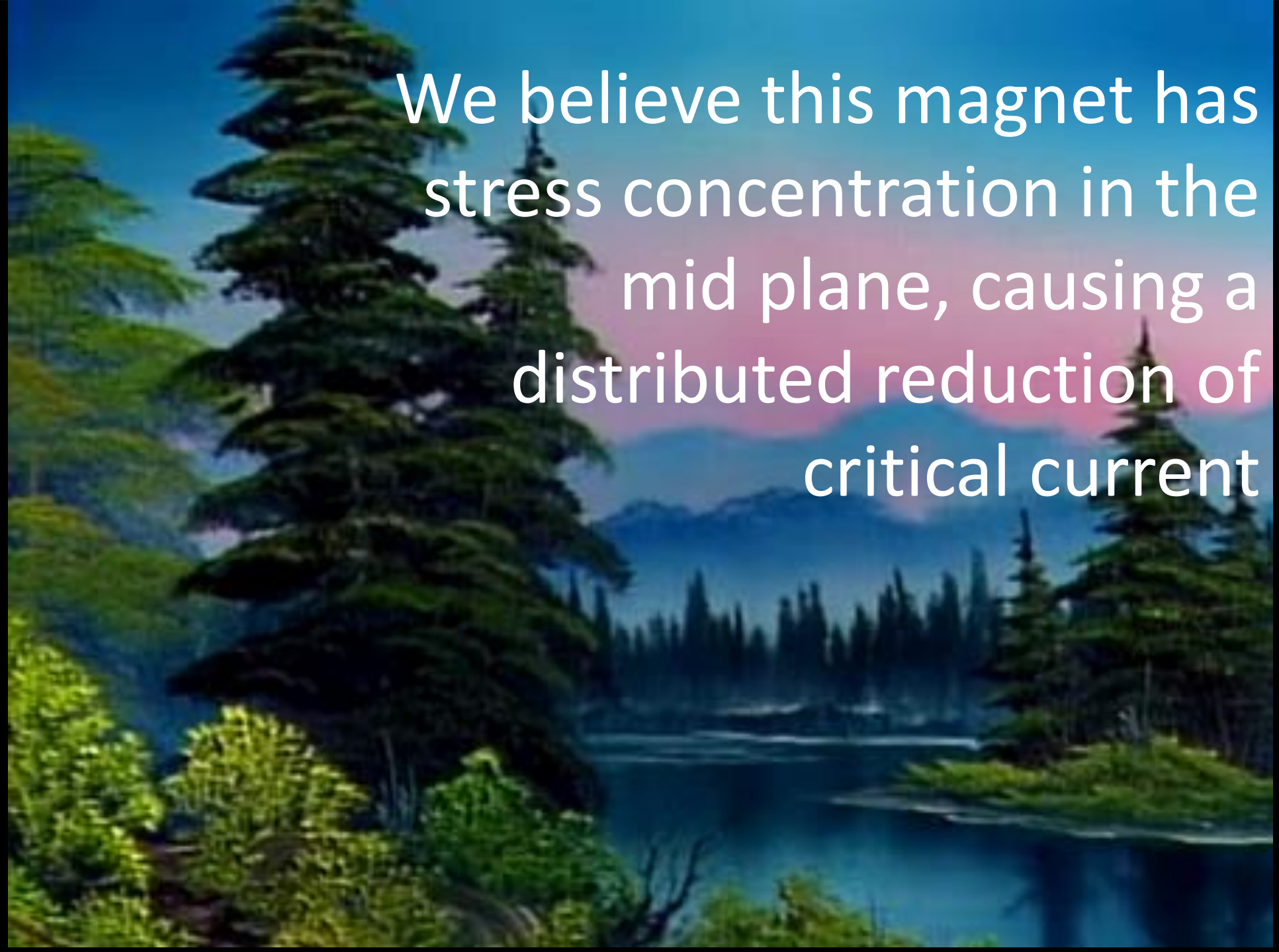
Last detail: magnet design



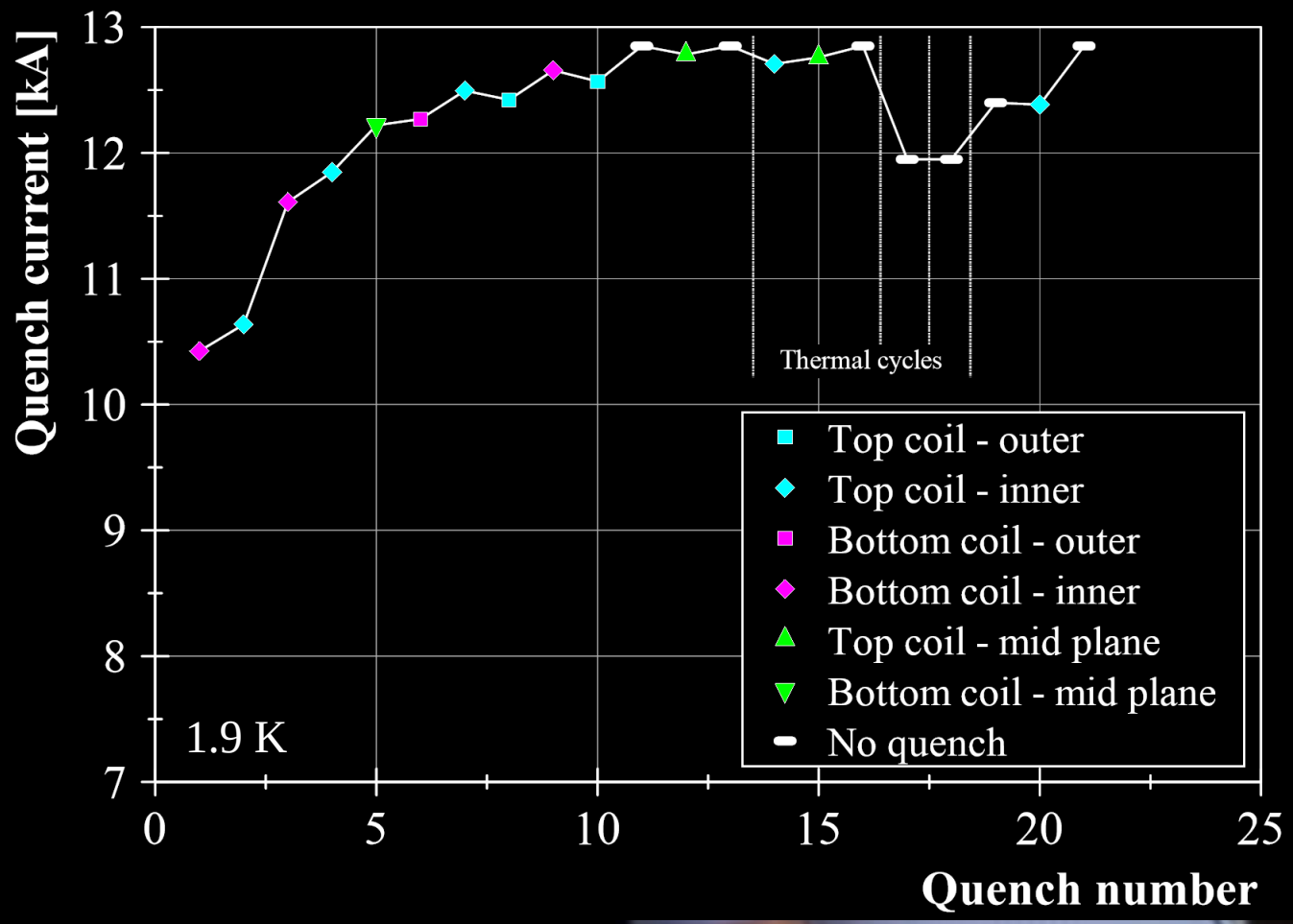




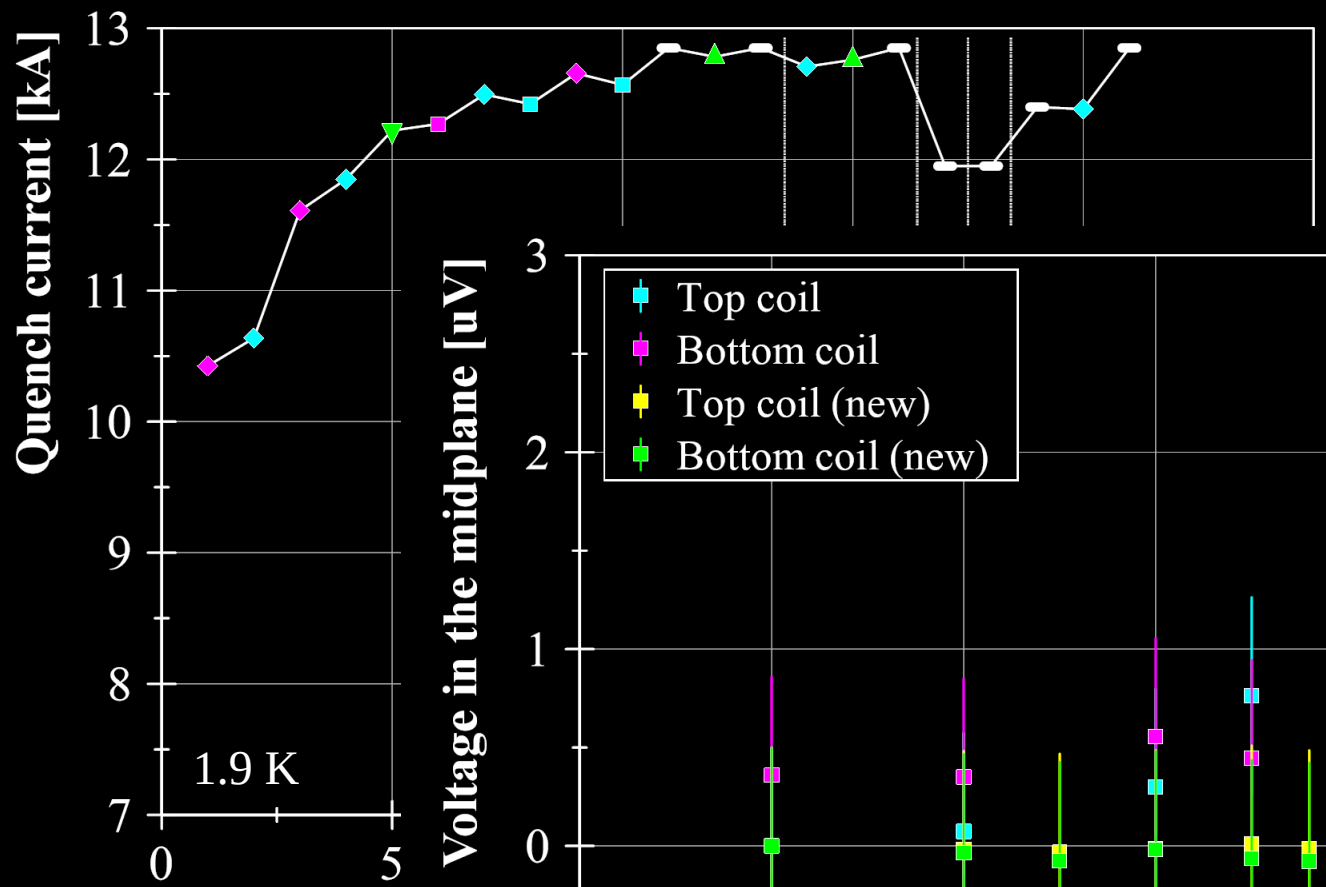

Island in the Wilderness

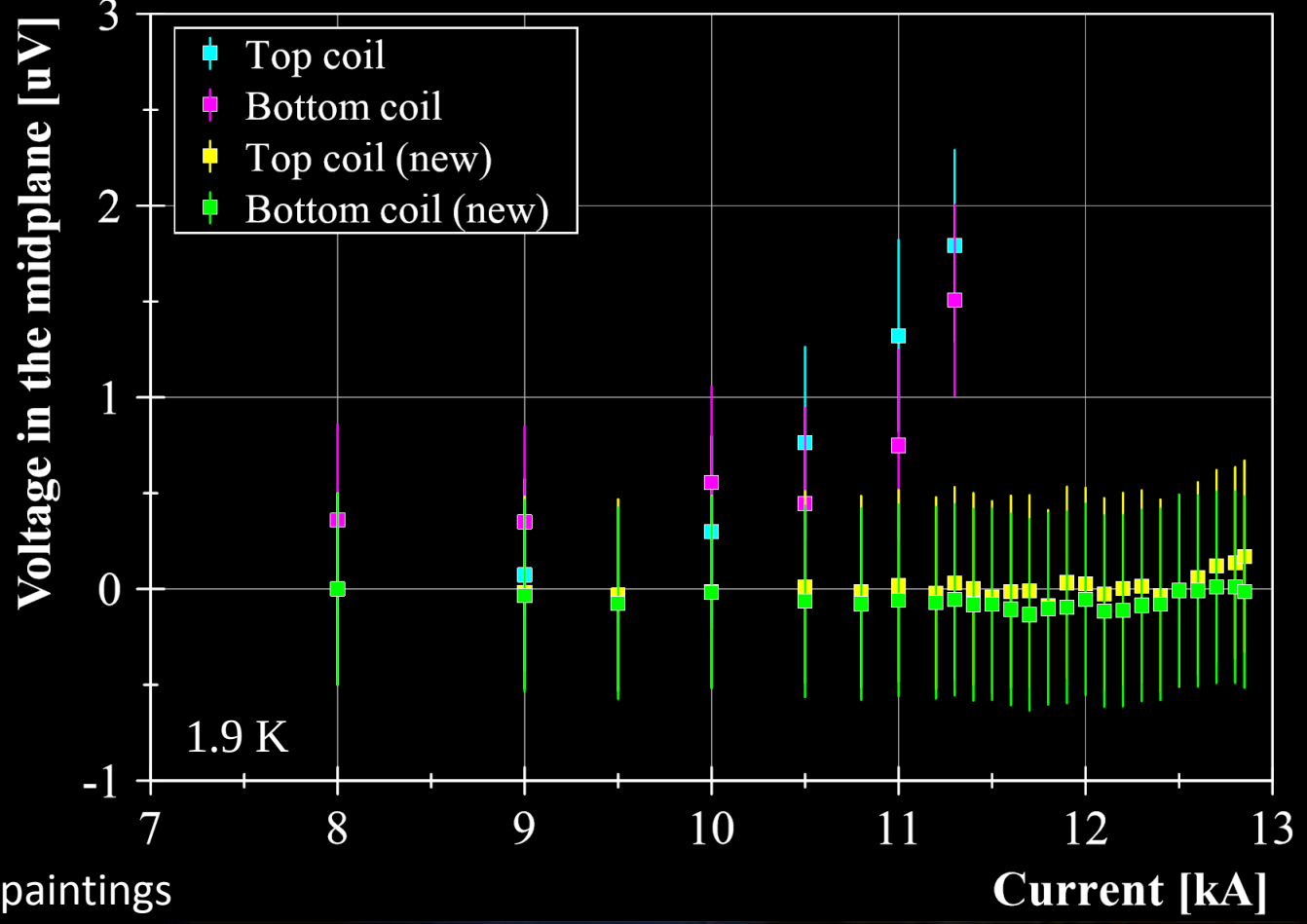

We believe this magnet has
stress concentration in the
mid plane, causing a
distributed reduction of
critical current

New magnet: no mid plane limit



New magnet: no early SC transition





← For Bob Ross' paintings

Magnet design, construction, simulations and measurements by the *Magnets, Superconductors and Cryostats* group at CERN (TE/MSC) in the frame of the HL-LHC project