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## Analysis of the Quench Experiments on HTS conductors

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During 2020, the SULTAN test facility was upgraded to host Quench Experiments on HTS conductors. In the frame of the EUROfusion program, few cables based on the Swiss Plasma Center (SPC) Twisted Stack-Tapes design have been manufactured and successfully tested. Each conductor addresses a specific design parameter. For the first time, it was possible to observe the quench evolution and propagation (maximum current 15 kA, maximum magnetic field 9 T) in a sub-size HTS conductor for fusion applications, reaching high temperature (above 200 K) and electric field (above 10 mV/cm). The goal of the experiment was to study how the different design parameters affect the quench evolution and the temperature distribution among different regions (cable, helium, jacket). The presented outcomes shall support the design of HTS cables for fusion. The experimental results are compared to the model of the HTS conductor build by the multi-physics code THEA.

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