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Update on high-power testing of X-band RF structures at CERN

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At the high-gradient X-band test facility at CERN, prototype accelerating structures for the Compact Linear Collider (CLIC) are tested at high powers of up to 50 MW to achieve accelerating gradients of over 100 MV/m and peak surface electric fields of over 220 MV/m, and are conditioned to reach the highest possible gradient at low breakdown rate. The setup of the test stands will be presented, as well as recent structure results including conditioning histories, breakdown localisation, field emission in the form of Faraday cup signals and radiation, as well as comparisons between different structure designs and conditioning strategies.

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