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Mechanical and seismic performance analysis of the dewar used for helium gas tightness test for CFETR conductor

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China Fusion Engineering Test Reactor (CFETR), a new tokamak device, is under concept design based on the experience of Experimental Advanced Superconducting Tokamak (EAST) and ITER. Research and development of TF coil for CFETR is carried out by ASIPP. TF coil is winding by Cable in-Conduit Conductor (CICC). Main manufacturing process of CICC includes welding of jacket, draw lead, winding and global helium gas tightness test. After winding, the diameter of TF conductor is about 4 m and the weight is close to 30 t. This paper describes structural design of dewar which is used for the global helium gas tightness test for the TF conductor after winding. A global finite element model is created based on the design geometry data to investigate the mechanical property of the dewar under static load and seismic load.

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