## STRUCTURAL ASSESSMENT OF THE ITER MAGNET SYSTEM GRAVITY SUPPORT

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In addition to support the full weight of the ITER magnet system (i.e. Toroidal and Poloidal Field Coils, Central Solenoid and Correction Coils), the 18 Gravity Support (GS), located at the outboard region of the Toroidal Field Coils, are designed to withstand both normal operation conditions (including plasma disruptions and vertical displacement events) and offnormal events like seismic loads. The structural assessment justifying the design, has been carried out according the ITER Magnet Structural Design Criteria in which 4 categories of events and 4 distinct criteria levels and corresponding loading categories and damage limits are defined. The chosen GS design is based on flexible plates which provides the required flexibility in radial direction and which acts stiff in the vertical and out-of-plane direction. Due to manufacturing reasons a welded structure is not possible and therefore the different components in the GS are connected by bolts. For the structural assessment of the GS a nonlinear finite element model (FE-model) has been developed which includes features like nonlinear contact and friction. Evaluation of the results was mainly focused on the acceptability of static and cyclic stresses in the GS, loads on the keys/bolts, and the buckling limit(s). This paper gives a description of the analyses performed and results obtained which justifies the present design of the gravity support.