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**Structural Analysis of the Ignitor Load Assembly\*** A.
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R. FROSI, A. PIZZUTO, G. RAMOGIDA, F. BOERT, KM, Germany,
H.G. WOBKER, B. COPPI, MIT — The structural analysis of the IG-
NITOR machine Load Assembly has been completed taking into account
the friction coefficients at the interfaces between its main components.
A Finite Element ANSYS model was used to analyze the non-linear me-
chanical behavior of the structure. The calculation shows stresses within
the allowable limits at the operating temperature. Interlaminar shear
stresses values on the insulators of the toroidal field coils have been val-
idated by the results of tests performed by Ansaldo. The non-linear
analysis takes into account both the in-plane and the out-of-plane loads.
Under normal operating conditions the assumed friction coefficient on
the wedging surfaces is adequate to assure the structural stability of the
Load Assembly. Furthermore, once unloaded, the structure comes back
without any permanent deformation. The safety factors of the aver-
age shear stresses against the insulation shear rupture strength at the
beginning of Ignitor life is always greater than 3, while at the end of
life this is reduced to about 2 because of the degradation of mechanical
properties due to the neutron dose. Keys of proper dimensions between
the $30°$ extension of the C-clamps modules have been adopted to assure
structural stability.
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☐ Prefer Oral Session
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