IIIs08-008

Comparative study on extensômetria and finite element simulation for deformation for torsion

Alencar, M.C.(1); Cione, F.C.(1); Reis, L.A.M.(1); Mucsi, C.S.(1); Souza, M.M.(1); Rossi, J.L.(1); Aranha, L.C.(1);
Instituto de Pesquisas Energéticas e Nucleares(1); IPEN(2); Instituto de Pesquisas Energéticas e Nucleares(3); Instituto de Pesquisas Energéticas e Nucleares(4); Instituto de Pesquisas Energéticas e Nucleares(5); Instituto de Pesquisas Energéticas e Nucleares(6); Instituto de Pesquisas Energéticas e Nucleares(7);

The use of finite element simulation has been widely employed by industry and academia, for design and development of mechanical systems; and with that there's a considerable savings in time, financial and manpower. In this project we will be evaluating and comparing the results of the behavior of a piece by computer simulation by finite elements, using the software Ansys ® Academic, for a bar with strain concentration profile, where this will be applied to twist. With the results of the simulations, compared with the results of the same piece materialized and with installation of strain gages to measure the deformation exerted on the. These sensors convert the mechanical deformation in electrical signal by formation of a Wheatstone bridge. In this way, with the results of the two reviews, simulation and measurement, we note that there is similarity between the results, Since we work within the component's elastic deformation curve.