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(57) Abstract :

A direct stress fatigue testing apparatus (100), the apparatus (100) comprising: a frame (102) designed to provide a rigid support to components of the apparatus (100); a beam (108) having a first end (110a) and a second end (110b) such that the first end (110a) of the beam (108) is fixedly attached to a trunnion (112) and the second end (110b) of the beam (108) is removably attached to a specimen (114) to be tested; and an exciter motor (118) operated at a pre-defined speed to enable a rotation of a rotor shaft (122), wherein a centrifugal force is exerted due to an unbalanced mass (124) in the rotor shaft (122) of the exciter motor (118), such that the centrifugal force generates a linear force applied as a load on a specimen (114) for fatigue testing.

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