

DYNAMIC LAY STRESSES FOR PIPELINES

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ABSTRACT

A two-dimensional finite element computational method is presented for determining submarine pipeline displacements and stresses due to waves and imposed motions of the lay-barge. The hydrodynamic load components in the unsupported span are deduced from the linear wave theory and generalized Morison equation. The Newmark- β method is used for the solution of non-linear equations. A time domain solution for the bidimensional dynamic structural response is obtained with the help of a computer programme.

Keywords: pipeline, float, stress analysis

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