

Abstract

Buckling detection within subsea pipeline laying using Acoustic Emission technique

The most critical factor on operation of subsea pipeline installation is control of stresses (e.g. buckling, bending, fatigue etc.) in pipeline as it travels from the pipeline laying barge to the sea floor. Hence, online monitoring for pipeline laying is an important task for early detection for abnormal situation that may lead to catastrophic accident. This paper focuses on early detection of buckling stresses produced by the subsea pipeline at the laying operation using AE technique. The sensing configurations and signal analysis are carried out experimentally into a pipeline system in the lab. The results have shown that AE technique can be used for early detection of pipes buckling and bending.