SLAMMING ANALYSIS OFFSHORE PATROL BOAT

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ABSTRACT

Offshore Patrol Boat is the ship used to carry out security patrols on the oil and gas industry, especially offshore area where placed offshore structure. In this thesis, the main purpose is to determine and predict the chances of occurrence, intensity and pressure of Slamming incident.

On this thesis, the first step is design of the structure of the Offshore Patrol Boat with MAXSURF software to get Linesplan. After get offset data, modeling continued using MOSES software to get heave and pitch motion Respon Amplitude Operator (RAO). Result of RAO from MOSES software will used to analyze the bow relative motion and then to know about respond structure on the random wave and calculate spectra analysis. From the calculation will knowed Slamming parameters that can be used to calculate the probability, intensity and pressure of Slamming on the Offshore Patrol Boat.

From the result analysis, obtained characteristic of the vertical motion on the regular wave which influenced by the speed and direction of the wave. The greatest probability of Slamming is happen with following sea wave (0°) with 1.57 m loaded condition and speed is 10 knots. The greatest intensity of Slamming occurs at the loaded condition 1.5m with speed 10 knots with value 393.56 and a value threshold 0.25 m/s. Pressure of Slamming occurs on the loaded condition 1.5m draft with speed 10 knots with value 25.49 kPa and a value threshold 0.25 m/s.
Kata-kata kunci: Offshore Patrol Boat, RAO, slamming