SPACE TIME MODELLING OF SIGNIFICANT WAVE HEIGHTS VARIABILITY FOR FATIGUE ROUTING

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Significant wave height Hs is defined as four times standard deviation of the wave field and hence Hs squared is a measure of the average wave energy. The accumulated damage in ships can be related to the history of encountered significant wave heights. Fatigue routing means planning shipping so that the accumulated damage would be minimized.

In this talk we shall present a model for space time variability of significant wave heights over oceans. The model will be used to predict the fatigue damage caused by sea waves to structural details in a ship. The resulting distribution will be compared with the empirical one derived from an extensive measuring campaign.