

Weerachat Polsan 2009: Fatigue Lifetime Estimation of Samlor Skylab Structure.
Master of Engineering (Industrial Production Technology), Major Field: Industrial
Production Technology, Interdisciplinary Graduate Program. Thesis Advisor:
Mr. Prapod Kontong, Ph.D. 86 pages.

Numerical analysis of high-cycle fatigue life for the structure of Rot Samlor Skylab is presented. Stress time history for the structure is computed by means of linear transient finite element analysis. Rough pavement surfaces inducing random loads on the structure are represented by a random two-dimensional isotropic Gaussian field. The stress-life (S-N) method was use. The effect of the mean value of the alternating stress has been taken in to account. In this work, Goodman method with Palmgren-Miner's rule were used to compute the cumulative damage and the rainflow method for cycles counting is employed to predict the fatigue life of the structures.

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Thesis Advisor's signature

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