FAULT DIAGNOSIS USING FEATURE EXTRACTION IN POWER PLANT ROTATING MACHINERY

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DECEMBER 2009

Tarikh : 15 Disember 2009

No. Fail Projek : 600-RMI/ST/DANA 5/3/Dst (127/2008)

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LAPORAN AKHIR PENYELIDIKAN "FAULT DIAGNOSIS USING FEATURE EXTRACTION IN POWER PLANT ROTATING MACHINERY"

Merujuk kepada perkara di atas, bersama-sama ini disertakan

1. Empat (4) naskah Laporan Akhir Penyelidikan.
2. Satu (1) salinan softcopy (CD).

Sekian, untuk makluman dan tindakan Y. Bhg. Prof, selanjutnya.

Terima Kasih.

Yang benar,

NOR AZLAN OTHMAN
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ACKNOWLEDGEMENTS

In the name of ALLAH S.W.T, The most Beneficent, The most Merciful. It is with the deepest sense of the Al-Mighty Allah that gives us the strength and ability to complete this project. All good aspirations, devotions and prayers are due to ALLAH S.W.T whose blessing and guidance have helped us throughout the entire project.

Our deepest appreciation goes to our beloved family for their moral and spiritual supports.

To our UiTM colleague, thanks for being corporative and your kindness will never be forgotten.

Finally, we would like to acknowledge and express our sincere gratitude towards those that directly or indirectly contributed towards the progress of this research.

ABSTRACT

The aim of this paper is to diagnose the faults that occurred in rotating machinery. Pattern recognition technique was implemented using three main steps of fault diagnosis; feature extraction, dimensionality reduction and fault classification. This paper focuses on the faulty bearing which mainly caused by mass imbalance and axis misalignment. Vibration signal that obtained from the rotating machinery is extracted by using non-parametric or parametric method to get the power spectrum density (PSD). Principal Component Analysis (PCA) is then introduced to reduce the complexity as well as smooth the classification process. By analyzing the vibration signal obtained from the test rigs (rigs that are built to demonstrate the effect of faults in rotating machinery), it gives solid information concerning any faults within the rotating machinery.