

البحث الثانى

بيانات البحث رقم (2)

بحث مشترك

نوع البحث :

(مشارك مع آخرين فى نفس التخصص)

1- بيانات البحث رقم (2):

عنوان البحث باللغة الانجليزية	Experimental Investigation of Fault Diagnosis for Centrifugal Pump Based on Vibration Signals
عنوان البحث باللغة العربية	التحقيق التجريبي لتشخيص الأعطال لمضخة الطرد المركزي بناء على إشارات الاهتزاز

3. ملخص البحث باللغة الانجليزية:

Experimental Investigation of Fault Diagnosis for Centrifugal Pump Based on Vibration Signals

A centrifugal pump is an integral part of the process industry. Fault diagnosis is a significant part to maintain the performance, improve the reliability and prevent energy wastage of the centrifugal pumps. This paper presents an experimental work for investigating the fault diagnosis of the centrifugal pump using vibration signals. Most of the centrifugal pump faults generate specific vibration patterns that can be captured and analyzed for the diagnosis of the defaults. Three fault conditions are considered namely; damage bearing fault, impeller fault and both bearing and impeller fault. To identify the

fault signal in a centrifugal pump, three vibration approaches are employed namely; root-mean-square, time domain analysis and envelop analysis. From experimental results, it is found that the measurement of vibration signal plays a significant role in the evaluation of the centrifugal pump defects. Also, the results showed a substantial fluctuation in the root-mean-square of several pump speeds for a normal and faulty centrifugal pump. Moreover, it is observed that increasing the faults leads to an increase in the vibration generation of the centrifugal pump. Finally, it is found that the vibration amplitudes of the bearing fault increase with increasing the speed of the centrifugal pump.

4- بيانات نشر البحث رقم (2):

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