

عنوان مقاله:

A Successful Application of Dynamic Vibration Absorb-er for Vibration Reduction of a Vertical Motorer -Pump

محل انتشار:

دوازدهمین کنفرانس بین المللی آکوستیک و ارتعاشات (سال: 1401)

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خلاصه مقاله:

Rotating machines are recognized as crucial assets for most of factories. Their internal design and work-ing conditions inevitably subject them to vibration, which in most cases is undesirable. One of these ma-chines is vertical motor-pump and its vibration reduction using dynamical vibration absorber is the goal of this investigation. Experiments are conducted in this study to investigate how vibration can be reduced in centrifugal pumps. To eliminate undesirable vibration caused by harmonic forces, a dynamic vibration ab-sorber (DVA) as a passive vibration controller is used. In this study, vibration attenuation is achieved by using the ۴ kg weights and the stiffness of DVA adjusted by moving masses at both side. In comparison to mass adjustment, tuning stiffness is more effective at reducing vibrations. The results show that this absorber successfully decreased the vibration of the motor up to ۱۸ times, and also this mounted .DVA attenuated vi-bration of motor in both high and low frequency region

کلمات کلیدی:

.Dynamic vibration absorber; stiffness tuning; mechanical impedance

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