

Why We Need to Install Exciters in Rotating Machines?

- Benefits and Prospects

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ABSTRACT

Exciter or actuator is emerging as a new machine element in modern rotating machinery, because of its cost effectiveness, i.e. extra benefits acquired by such a new installment. In fact, there are a few special commercially available products equipped with exciters such as the dynamically tuned gyroscope and the active magnetic bearing spindle. Some of the obvious benefits are: an exciter can be used as an active bearing, an active balancer, and an actuator for in-situ identification and scenario (planned diagnostic) tests. This work extensively discusses the benefits that can be gained by introducing exciter(s) in rotating machinery. There is always a trade-off between the cost and the benefits with any new installments. However, if the benefits earned at the expense of installation of new exciters in a machine may even out the cost, such exciters will be considered as an important element of the machine.

Keywords: Scenario test, Exciter installation, Active diagnostic test