Dynamic Analysis of the Spur Gear transmission based on Simulation method

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1.Introduction

The advantages of the gear reducer are obvious, and the specific performance is that it has a smooth transmission system, a compact structure, high transmission efficiency, and strong bearing capacity. Meanwhile, it is widely used in various fields, especially in the main load transmission. According to statistics, the proportion of gear failures of gear reducers accounts for 60%, which is the main cause of accidents. Therefore, the analysis of gears is very necessary.

2. Abstract

Based on finite element, the finite element model of the system is established. Based on the theory of mechanical dynamics, the system vibration equation is established and the dynamic excitation of the system is analyzed. In the ADAMS and ANAYS environment, the modal analysis of the system is carried out, and the dynamics simulation of the system is carried out to obtain the dynamic response of the system. Provide a theoretical basis for the design and fault analysis of the transaxle to prove the correctness of the method used.

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