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Dynamic simulation of automobile crankshaft

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Crankshafts are one of the most important parts of a reciprocating engine. İt basically connects driveline system to the pistons which gives the motion. The main aim of a crankshaft system design is to have lower bearing forces, lower torsional vibrations and higher fatigue strength. But, due to complexity of the geometry, lack of manufacturing quality and nonlinear forces, it is hard to analyze the characteristics of the crankshaft. In this work, a 2D representation of a crankshaft model was built with load information from connecting rods and other specifications. The resultant bearing forces and harmonics of the crankshafts were calculated with given data. The AVL Excite software program was used to simulate the crankshaft of an engine.

Biography

Ihsan Uluocak is a PhD student and has been working as a Research Assistant at the Mechanical Engineering Department of Çukurova University since 2011.

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