ANALYSIS, MODELLING AND SIMULATION OF MACHINE TOOL FEED AXIS DRIVE
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ABSTRACT
The paper aims to develop a bond graph model for analysis and simulation of multi-body feed axis drive system of machine tools consisting of permanent magnet DC motor, power train, transmission elements and the moving members with certain friction characteristics. The bond graph model clearly expresses the logical interconnection among the components. The effect of motor electrical parameters and mechanical component parameters for transmission elements on the performance of feed drive is studied.

KEY WORDS: Feed drive, Friction, Ball Screw, Angular Stiffness.