

Effect of Symmetry on Structures of Epicyclic Gear Trains

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Received 06 June 2013; received in revised form 05 December 2013; accepted 05 February 2014

Abstract

An epicyclic gear train (EGT) can be denoted by a graph and this graph in turn represented by an adjacency matrix. Hamming matrix is used to detect isomorphism and measure the structural aspect of symmetry in EGTs. More symmetry in EGTs results in higher number of structural arrangements as compared to EGTs with no or less symmetry.

Keywords: epicyclic gear trains, adjacency matrix, degree of freedom, isomorphism, symmetry, Hamming matrix.

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