

SPEED AND MOTION ANALYSIS OF MULTI CARRIER PLANETARY GEAR-TRAINS

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Abstract

Determination of speed ratios in planetary gear trains tends to be complex as the number of carriers increases. The solution becomes simpler when the gear train is viewed in terms fundamental circuits. Each fundamental circuit be analyzed separately and then by matching the speeds of the elements common to different fundamental circuits, final solution is obtained. The gear trains can be compared for the quality of motion transmission i.e. which of the trains are more prone to vibrations and noise. A quantitative method to compare the gear trains for these aspects is presented.