
RESEARCH OF LOAD DISTRIBUTION OVER ELEMENTS OF EPICYCLIC PIN GEAR

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Abstract

The study focuses on the method for calculating the forces in epicyclic pin gear with allowances made for the additional degrees of freedom of the satellite and the constraints imposed by the supports of the satellite and the fingers of the parallel crank mechanism. The method allows us to clarify the position of the loaded pin in the gearing. The results of this calculation are compared with calculations made according to the known methods, including those using the finite element method. We made the conclusion about the displacement of the most loaded pin from the gearing pole to the gear symmetry axis. The results of the calculation can be used in designing a cycloid speed reducer with epicycloidal and chypocycloidal gearing, made according to the scheme k-h-v.

Keywords

Cycloid speed reducer, cycloidal gearing, trochoidal gearing

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