

عنوان مقاله:

Geometry Definition and Contact Analysis of Spherical Involute Straight Bevel Gears

محل انتشار:

فصلنامه بین المللی مهندسی صنایع و تحقیقات تولید، دوره 23، شماره 2 (سال: 1391)

تعداد صفحات اصل مقاله: 12

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خلاصه مقاله:

A practical application of the spherical involute surface to the forged straight bevel gears is provided and demonstrated in this work. Conjugate (pure involute) theoretical surfaces are developed from the input design parameters. The surfaces are modified to suit the actual application (automotive differential). The unloaded (or low load) tooth contact analysis of modified surfaces is performed to obtain the prediction of the contact pattern. In order to verify the procedure and predictions, actual straight bevel gears are forged by using provided surfaces, and their contact pattern is compared to the predictions. Influence of the misalignments on the gear performance is investigated .in order to provide more robust design

کلمات کلیدی:

spherical involute surface, forged straight bevel gears, unloaded tooth contact analysis, gear misalignment

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