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Abstract :

The authors have worked on calculating gear tooth wear in spur gears under dry running conditions.In many cases gears operate under unlubricated conditions and efforts have to be made to improve life of these gears against wear.However quantitative estimation of the defect is required for studying the wear development.The authors have developed a mat lab program to demonstrate the changes in the gear wear for cycle.Based on the experimental work the authors have drawn the following conclusions.

The gear wear characteristics of sintered steel gears containing $MoS_2$ were investigated.Wear prediction model suitable for sintered steels was described based on the existing approach for wear prediction in gears and Archard's wear equation.Addition of $MoS_2$ improves the density,hardness and strength and increases the wear resistance.The progressive wear predictions will enable the gear designers to evaluate the safe gear-operating regime.Wear predictions and observations indicate the maximum wear in the dedendum and addendum regions.Gear wear depends the materials hardness and strength.The results presented show the progression of material removal and indicate how the wear varies from point to point over the gear meshing cycle.The predicted wear depths are in close agreement with the experimental results.