

# ASME POWER TRANSMISSION AND GEARING CONFERENCE (PTG)

---

## INTRODUCTION

## GEAR DESIGN AND ANALYSIS

### DETC2009-86229

Measurement Over Balls of Conical Involute Gears

*Carlo Innocenti*

### DETC2009-86241

Computerized Design of Gear Drives With Modified Elliptical Centrodes

*Alfonso Fuentes, Ignacio Gonzalez-Perez, Faydor L. Litvin, and Kenichi Hayasaka*

### DETC2009-86249

New Method of a Calculation of Equidistant Coordinates of an Involute Tooth Profile for FEM Calculations of Gears

*Milos Nemcek and Zdenek Dejl*

### DETC2009-86252

Computerized Design of Muti-Gear Drives for Function Generation

*Ignacio Gonzalez-Perez, Alfonso Fuentes, Faydor L. Litvin, and Kenichi Hayasaka*

### DETC2009-86291

Self-Locking of 2S-C Type Planetary Gear Train Composed of External Gears

*Kiyotaka Ikejo, Kazuteru Nagamura, Tuneji Yada, and Yoshiya Kagari*

### DETC2009-86406

Development of a Hybrid Involute Gear Profile

*B. Levi Haupt, Isaac R. Jones, and Robert H. Todd*

### DETC2009-86548

Tooth Surface Error Correction for Face-Hobbed Hypoid Gears

*Qi Fan*

### DETC2009-86663

Lubricant Influence on Gear Efficiency

*Klaus Michaelis, Bernd-Robert Höhn, and Andreas Doleschel*

### DETC2009-86676

A Mathematical-Numerical Model to Calculate Load Distribution, Contact Stiffness and Transmission Error in Involute Spur Gears

*Mehdi Mohammadpour, Iraj Mirzaee, and Shahram Khalilarya*

### DETC2009-86793

The Wolfrom Gear Train: A Case of Highest-Complexity Related Modifications of the Tooth Meshing

*Kiril Arnaudov and Dimitar Karaivanov*

### DETC2009-86838

Influence of Gear Rim Deflections on Planetary Gear Set Behavior

*H. Ligata, A. Kahraman, and A. Singh*

### DETC2009-86843

Stress Analysis of Spherical Gear Sets

*Li-Chi Chao and Chung-Biau Tsay*

### DETC2009-86932

Robust Optimization of the Loaded Contact Pattern in Hypoid Gears With Uncertain Misalignments

*M. Gabiccini, A. Bracci, and M. Guiggiani*

**DETC2009-87092**

Torsional Rigidity of a Cycloid Drive Considering Finite Bearing and Hertz Contact Stiffness

*Hyeong-Joon Ahn, Kyoung-hong Kim, and Chun-se Lee***DETC2009-87179**

Simplified Calculation Method for the Efficiency of Involute Spur Gears

*José I. Pedrero, Miguel Pleguezuelos, and Marta Muñoz***DETC2009-87302**

Analytical and Experimental Tooth Contact Pattern of Large-Sized Spiral Bevel Gears in Cyclo-Paloid System

*Kazumasa Kawasaki and Isamu Tsuji***DETC2009-87485**

Computational Nonlinear Vibration Analysis of Gear Pairs Using a Three-Dimensional Model

*Tugan Eritenel and Robert G. Parker***DETC2009-87494**

Vibration Modes of Helical Planetary Gears

*Tugan Eritenel and Robert G. Parker***GEAR DYNAMICS AND NOISE****DETC2009-86132**

Factors Affecting Transmission Error in Helical Synchronous Belt With Error on Belt Side Face Under Bidirectional Operation

*Masanori Kagotani and Hiroyuki Ueda***DETC2009-86638**

Approximate Closed-Form Solutions for the Shift Mechanics of Rubber Belt Variators

*Francesco Sorge and Marco Cammalleri***DETC2009-86695**

Transmission Error as Gear Noise Excitation

*Mats Henriksson and Yuet-Yan Pang***DETC2009-87525**

A Frequency Domain Finite Element Approach for Three-Dimensional Gear Dynamics

*Christopher G. Cooley, Robert G. Parker, and Sandeep M. Vijayakar***DETC2009-87553**

Dynamic Modeling and Analysis of a Planetary Gear Involving Tooth Wedging and Bearing Clearance Nonlinearity

*Yi Guo and Robert G. Parker***GEAR MANUFACTURING AND TRIBOLOGY****DETC2009-86119**

Advanced Manufacture of Spiral Bevel Gears on CNC Hypoid Generating Machine

*Vilmos V. Simon***DETC2009-86786**

An Ease-Off Based Method for Loaded Tooth Contact Analysis of Hypoid Gears Having Local and Global Surface Deviations

*M. Kolivand and A. Kahraman***DETC2009-86970**

Simulation of Double Flank Gear Rolling Testing

*Chia-Chang Liu and Kao-Hui Lin*

**DETC2009-87199**

Simulation and Optimization of Gear Form Grinding

*Carlo Gorla and Francesco Rosa***GEAR STRENGTH AND DURABILITY****DETC2009-86164**

Loaded Tooth Contact Analysis and Stresses in Spiral Bevel Gears

*Vilmos V. Simon***DETC2009-86323**

Improvement of Bending Fatigue Strength for Hybrid Cords With Carbon and Glass Fibers

*Masamori Furusawa, Yuuya Tsukada, Takuya Morimoto, and Hiroshi Iizuka***DETC2009-86358**

Crowning Techniques in Aerospace Actuation Gearing

*Anngwo Wang and Lotfi El-Bayoumy***DETC2009-87313**

Effects of Case Depth, Side-Face Carburizing and Helix Angle on Residual Stress and Bending Fatigue Strength of Case-Carburized Helical Gears

*Kouitsu Miyachika, Kazuaki Ando, Wei-Dong Xue, and Imaduddin Helmi Bin Wan Nordin***TRANSMISSIONS****DETC2009-86112**

Modeling Techniques for Dynamic Analysis of a Helicopter Transmission System

*David B. Stringer and Paul E. Allaire***DETC2009-86255**

Hertzian Contact Pressure Analysis of Frictional Coupling Elements of Multidisk Stepless Transmission With Initial Line Contact

*S. A. Lukowski, L. A. Medeksza, D. N. Kunz, and Jeff Hoerning***DETC2009-86982**

Conceptual Design of a Chain Speed Increaser for Small Hydropower Stations

*Codruta Jaliu, Radu Saulescu, Dorin Valentin Diaconescu, and Mircea Neagoie***DETC2009-87224**

Three Dimensional Virtual Modeling and Analysis Methods of Embedded Drivetrains

*Steven Mulski and Lutz Mauer*