

Table of Contents

Preface und Committees

Development of Helicopter Power Transmission System Technology Z.Y. Yin, B.B. Fu, T.B. Xue, Y.H. Wang and J. Gao	1
Future Transmissions for Wind Turbines B.R. Höhn	18
Dynamic Behavior of Helical Gears with Effects of Shaft and Bearing Flexibilities K. Feng, S. Matsumura and H. Houjoh	26
Dynamic Modeling of Multi-Stage Planetary Gears Coupled with Bearings in Housing Z.M. Xiao and D.T. Qin	30
A Static and Dynamic Model of Spiral Bevel Gears J. Wang, J.T. Alves, M. Guingand, J.P. de Vaujany and P. Velez	35
Research on Meshing Characteristics for Face Gear with Arcuate Tooth X.W. Cai, Z.D. Fang and J.Z. Su	39
A Challenge to Design of a New Harmonic Drive Device S.T. Li	43
Study on Helical Tooth Profile Modification of Planetary Gear Transmission on the Basis of Gear Transmission Error Y. Tang, S. Chang, Z.Q. Wang and K. Zhang	47
Optimization Procedure for Complete Planetary Gearboxes with Torque, Weight, Costs and Dimensional Restrictions U. Kissling and I. Bae	51
Analysis System of Marine Planetary Gear Trains G. Liu, S. Chang, L.Y. Wu and Y.S. Li	55
Application Probing of Advanced Helicopter Transmission System Technology W.Q. Ding	59
Initial Pressure Influence on Pressure Flow Factor Used in Mixed-Lubrication Model F.M. Meng and Y.P. Chen	65
Asymmetric Gears: Parameter Selection Approach A. Kapelevich	70
Failures in the Development and Service of the Helicopter Transmission System T.B. Xue and G.Q. Li	74
Modification Analysis of the New Axis-Fixed Cycloid Drive M.Y. Liu, C.C. Zhu, C.N. Yan, X.Y. Xu and X.R. Zhang	82
Research on the Dynamic Response of a Combining Gear Drive System Y.Q. Zheng, X.Z. Xue and S.M. Wang	86
Study on General Principle for Structure Fatigue Substantiation of Helicopter Transmission Systems B. Hu	90
Thermal Effects Analysis on DCT Driven Plate in Vehicle Initial Condition J.Y. Huang, Z.J. Liu, W. Sun and D.T. Qin	96
Simulation of Finite Element Analysis for Cutting Force of High-Speed Dry Gear Milling by Flying Cutter Q. Guo, C. Lin and W. Quan	100
Optimum Design of the 3Z-II Planet Drive Based on Matlab Q.L. Huang, Y. Wang, M.L. Xu, J.G. Wang and Z.G. Luo	104
The Influence Analysis of Fatigue Limit for Mechanical Components Based on Standard Deviation of Full Scale Sub-Sample B. Ouyang and W.Q. Ding	108
X – Zero Gear Drive with Minor Teeth Difference Y.Q. Zhou, G. Zeng and C. Sun	112
Study on the Dynamic Excitation of the Star Gearing L.D. Jiang, B.X. Liu, Z.R. Zhu and Y.L. Chen	116
The Design Concept Application on RMS for Tail Drive System of Civil Helicopter W.Z. Liu, W.Q. Ding and Y.H. Wang	120

Dynamic Modeling and Virtual Test of a New All Terrain Off-Road Vehicle S.B. Lu, Y.N. Li and Y.L. Dong	125
Loaded Gear Contact Analyses for Pin Gear Reducers S.T. Li	129
Primary Application of the ILS Technology in the Tail Rotor Drive System of the Certain-Type Helicopter C. Duan, J. Gao, Y.H. Wang and Y. Lin	133
Study on Design and Simulation of the Vibration-Reduction of the Damp Structure for the Gearbox X. Wang, J.B. Fu and X.M. Yin	139
The Application of the Diagnoses Technique of Vibration on the Failure Analysis of Gear and Bearing in Gearbox Y.S. Ai, Y.H. Wang and W.Z. Liu	143
Advanced Tooth Surface Modification for Spiral Bevel Gears J.Z. Su, Z.D. Fang and X.W. Cai	148
Mold Machining Process and Applying Technologies of Spiral Bevel Gears X.Y. Tie and H. Zhang	152
Lubrication Mode and Selection of the Helicopter Transmission System Roller Bearing J.P. Qiu, M. Yin and L.S. Guo	156
Analysis of Static Load Sharing in Star Gearing L.X. Ying, L.D. Jiang, S.G. Yin and F.K. Kong	162
Active Gear Pair Vibration Control Based on Filtered-X RLS Algorithm W. Sun, Y.N. Li, F. Zhang and G.Y. Li	166
Preload Design of Bearings in Helicopter Transmission System M. Yin, J.P. Qiu and J. Gao	170
Dynamics Study of a Dynamic Balancing Linkage with Small Fluctuations in Load T. Ren, W.T. Qu and W. Sun	176
Blind Separation Method for Gearbox Mixed Fault Signals Y.B. Lei, Z.G. Chen and H.O. Liu	180
Analysis on Thermo-Mechanical Coupling Contact Stress of Cycloid Ball Planetary Drive H.C. Xia, Z.M. Yang and Z.J. An	184
Computational Tooth Root Stress Analysis of Crossed Beveloid Gears with Small Shaft Angle C.S. Song, C.C. Zhu, T.C. Lim and R. Fan	188
Research on Relationship between Modulus and Tooth Number of Transmitting Gear and Vibration Noise G.H. Dai, A.J. Zhao, H.F. Zhang and C.W. Gao	192
Load-Excursion Failure Analysis of the Gearbox's Input Pinion F.L. Ning	196
Optimal Design of Passive Magnetic Damper for Rotor Based on Sequential Quadratic Programming Method C.Y. Zuo and J. Zhou	201
Failure Analysis of Transmission Gear for Heavy Vehicles T. Wang, F.Q. Zhao and J. Shen	206
Influence of Flyweight Profile on Regulating Characteristic of Rubber V-Belt CVT H.F. Ding, C.C. Zhu and H.J. Liu	210
A Study on Spiral Bevel Gear Fault Detection Using Artificial Neural Networks and Wavelet Transform B.B. Fu and Z.D. Fang	214
Virtual Modeling and Finite Element Analysis of Flexspline Based on Solidworks R. Zhang and J.J. Yang	218
Research on Magnetic Transmission Design H.Q. Wang, P.Q. Yu and D.J. Chen	222
Study on Strength Calculation and Bend Stress Test of Face Gear H.M. Wu, X.Y. Yang and Y.B. Shen	227
The Longitudinal Vibration Analysis of the Drive Screw Under the Elastic Supports H.D. Zhang and J.L. Sun	232

New Calculation Method for the Load Capacity of Bevel And Hypoid Gears Based on Loaded Tooth Contact Analysis B.R. Höhn, K. Stahl and C. Wirth	237
Research on the Load Sharing Technique and Experimental Validation of NGW Type Planetary Gear Train H.F. Li, B.B. Fu and D. Fu	243
Dynamics Analysis of A Planetary Mechanism Soft Starter X. Jiang, J.H. Bao, Y. Zhang and Y. Yu	247
Dynamic Properties Analysis of Compliant Foil Aerodynamic Bearings Based on Spring Model S.X. Liu and X.Z. Ma	252
Dynamic Analysis of Combined Gear Drive Y. Wang, H.X. Liu and S.M. Wang	256
Improve the Wear Resistant Life of the Sprag Clutch by Used the Chemical Vapor Deposition Technology Y.Y. Jiang, Z.R. Yang and K.H. Shi	260
Dynamic Analysis and Multi-Object Optimization of the Forced Torsional Vibration for Vehicular Multi-Stage Planetary Gears H. Liu, Z.C. Cai, C.L. Xiang and M.Z. Wang	263
The Design and FEM Analysis of End-Face Tooth of Coupling Flange Q.X. Wang, W. Tang and N.J. Ye	268
Study on UV-LIGA Technology Fabrication of Micro Gear Transmission Device L.Y. Zhang, C.L. Wang, Z.M. Liu, M. Lu, L.X. Meng, Y.G. Zhang and H.P. Zhang	273
Quantitative Analysis of the Influence of Installation Errors on the Contact Pattern of Spiral Bevel Gears G.L. Liu, R.T. Zhang and N. Zhao	278
The Application and Development of the High Speed Overrunning Clutch in the Transmission System of the Helicopter Y.Y. Jiang, Z.R. Yang and J. Gao	283
Single Versus Bi-Directional (Reversal) Gear Tooth Bending Stress and Life (S-N) Evaluation J. Chen	287
Transmission Design for a Wind Powered Compressed Air Generation System D. Shaw, J.Y. Cai and C.T. Liu	293
The Design and Experiment of Oval Bevel Gear C. Lin, Y.J. Hou, Q.L. Zeng, H. Gong, L. Nie and H. Qiu	297
Research on Helicopter Main Gearbox Operating without Oil M.J. Liao, X.S. Su, Z.R. Yang and B. Yao	301
Analysis of Load Sharing Behavior in Herringbone Gears Power Branching Transmission System X.F. Yang, Z.D. Fang, B.B. Wang and J.F. Du	305
Improving Gearbox Design and Analysis for Offshore Wind Turbines H. Long, J.Z. Wu and A. Firth	309
Investigation on Modulation Sidebands in a K-H-V Planetary Gear with Double-Enveloping Cycloid Drive Vibration J.Y. Liu, S. Matsumura, B.K. Chen and H. Houjoh	313
The Application and Investigation about Industry CT Scan Technology in the Measure and Design about Complex Box L. Chen	319
Time Domain Computational Analysis for Shock Characteristics of Elastic Support Gearbox G.H. Dai, C.W. Gao and Y.H. Liu	323
Effect of Tooth Surface Modification on the Load Sharing and Strength of Offset Face Gear Drive with Spur Involute Pinion J.H. Wang, Y.B. Shen, Z.Y. Yin, J. Gao and Y.Y. Jiang	327
Longitudinal Dynamic Modeling of the Snowmobile Considering Fuel Economy X.S. Du, H.J. Liu, C.C. Zhu and H.F. Ding	333
Study on the Calculating Method of Bending Stress for Non-Circular Gear J.Q. Li, Z.M. Liu, H.P. Zhang, L.X. Meng, L.Y. Zhang and Z.B. Wang	337

Development Solution of Civil Helicopter Transmission Train Vibration Monitoring System S.N. Zhang, W.Q. Ding and Y.H. Wang	342
The Effect of Superfinishing on the Contact Fatigue of Case Carburised Gears J. Zhang and B.A. Shaw	348
Numerical Method of Determining the Curvature Interference Limit Curve for Modified Hourglass Worm Pairs Y.P. Zhao and T.C. Wu	352
Design, Analysis and Testing of a Mirco/Nano-Transmission Platform C. Lin, S.S. Yu, K. Cheng and G.B. Tao	357
Optimal Design and Contact Analysis for Planetary Roller Screw S.J. Ma, G. Liu, J.X. Zhou and R.T. Tong	361
The Application of Advanced Composite Material in Tail Driver Shaft of the Helicopter K.F. Li and T.H. Xia	365
Research on Digital Design and Manufacture Technology of Rolling Swing Movable Teeth Transmission Y.L. Yi and Z.J. An	370
A Lumped Parameter Model to Analyse the Dynamic Load Sharing in Planetary Gears with Planet Errors X.Y. Gu and P. Velez	374
Sensitivity Analysis of Natural Frequency to Structural Parameters of Helical Gear Shaft for Wind Turbine Gearbox J.G. Wang, Y. Wang, Y.T. An and Q.L. Huang	380
Static/Dynamic Contact Finite Element Analysis for Tooth Profile Modification of Helical Gears Y.J. Wu, J.J. Wang and Q.K. Han	384
Helicopter Transmission System Technology Readiness Assessment J.W. Liu, S. Wang and Y.H. Wang	389
Current Development Situation and Prospect of Circular-Arc Gear H.M. Gao, Y. Liu, Y. Chen and S.J. Liu	394
A New Method of Constructing Tooth Surface for Logarithmic Spiral Bevel Gear Q. Li, Z.L. Wei and H.B. Yan	399
Generation and TCA of Straight Bevel Gear Drive with Modified Geometry J.S. Jiao and X.M. Cao	403
Effects of Technical Elements on Microstructure and Hardness of TiAlN/TiN Coatings L. Lu, M.H. Ren and T. Jiang	407
Computer Simulation Analysis of Bending Stress for Face Gear with a New Type Fillet Tooth Surface Y.B. Shen, J. Gao and W.Q. Ding	411
Thermal Network Model for Temperature Prediction in Planetary Gear Trains L.F. Chen, X.L. Wu, D.T. Qin and Z.J. Wen	415
The Design of RODS Software on the Basis of Transmission Machinery Robust Optimal Designing System H.X. Zhang, X.C. Lu and L. Lu	419
Study on Ultrasonic Lapping System of Spiral Bevel Gear J.J. Yang, B.Y. Wei, X.Z. Deng and Z.D. Fang	424
Quantitative Evaluation of Aero Spiral Bevel Gear Meshing Quality P. Jiang, G.L. Liu, R.T. Zhang and C.Q. Wang	428
Effect of Transmission Error on the Fluctuating Tension Force for Dual-Coiler Machine Y.Q. Wang, F.Y. Wang and Y.X. Luo	434
Advanced Developments in Computerized Design and Manufacturing of Spiral Bevel and Hypoid Gear Drives Q. Fan	439
Study on the Micro Thermal EHL Behavior of Wind Turbine Gearbox B. Wu, W.K. Shi, L. Zhao and P. Fu	443
Experiment Study of Heat Transfer in Aeroengine Bearing Chambers X.C. Yuan, H. Guo and L.Y. Wang	448
The Tooth Form Deviation Correction of CNC Spiral Bevel Gears Grinding Machine W.Q. Zhang, X.D. Guo and M.D. Zhang	454

Analysis of Thermoelastic Instability on Multi-Disc Clutch W. Yang, G.D. Lu and H.S. Lv	458
Study of the Brush Seal Design and Test Technology N. Li, G. Tang and L. He	463
Modeling and Simulation of Mechatronic System to Integrated Design of Supervision: Using a Bond Graph Approach M.A. Mellal, S. Adjerid and D. Benazzouz	467
Design and Manufacture of Helical Planetary Gear Reducer with Small Module and Big Helical Angle J.M. Deng, H.P. Shen, L. He, W. Zhu, D.M. Tang, L. Ding, J. Li and W.Z. Zhou	471
Study on Designing and Dressing of Worm for Grinding Process of Face Gear X.Z. Li, R.P. Zhu, Z.M.Q. Li and F.J. Li	475
Bifurcation Analysis of Impact Model in Gear Transmission System J.Y. Tang, Q.B. Wang, L.J. Wu and S.Y. Chen	479
Operational Modal Test for Wind Turbine Gearbox Z.Q. Zheng, W.K. Shi and K.Y. Liu	483
Transmission System Health Management Technique X.X. Cai, X.J. Guo and H.Y. Long	487
Strength Analysis of Logix Gear Based on UG J.H. Wang, Y.C. Wang, F. Xie and X. Huang	492
Globoidal Indexing Cam's CAD/CAM Development on Pro/E N.F. Xu, F. Xu and W. He	496
Anonymous Function Method and its Application in Screw Pump's Design and Processing Y.X. Zhang, Q. Tang and X.Z. Ye	500
Rotor Dynamic Design of a Helicopter Tail Drive Shaft System Y.H. Wang, W. Yuan and Y.N. Chen	504
A Model of Nonlinear Dynamic Modeling for Planetary Gear Transmission System with Backlash F.J. Li, R.P. Zhu, H.Y. Bao and X.Z. Li	510
Dynamic Simulation Analysis of the Globoidal Indexing Cam Mechanism F. Xu and W. He	514
Effects of Gear Manufacturing Error on the Dynamic Characteristics of Planetary Gear Transmission System of Wind Turbine H.T. Chen, X.L. Wu, D.T. Qin, J. Yang and Z.G. Zhou	518
Effect of Shot Peened and Overload on Low Cycle Fatigue of Simulated Terminal Gear Specimen Y.M. Zhao, G.C. Ge and X.X. Cai	523
Effects of Graphite Content on Performance of Powder Injection Molding Copper-Based Antifriction Materials B. Qiao, L. Xiao, F. Shang, H.Q. Li and T.L. Guo	527
Dynamic Contact Emulate Analysis of Logarithmic Spiral Bevel Gear with ANSYS/LS-DYNA Q. Li, S.Q. Wu and H.B. Yan	531
Structure Design Research for Concrete Mixer Blade H. Zhang, Q. Tang and Y.X. Zhang	535
Application of Contact Analysis in Strength Analysis of Helicopter Transmission System W. Li	539
Adaptive Impulse Controller Design of Harmonic Drives System with Friction G.J. Li	543
Research on Geometry Relationship of Pin-Rack Gearing Z.H. Feng, M.K. Gou and S. Wu	547
Coupled Motion Control and Adjustment in Automatic Programming System of CNC Hobbing Machines Q. Li, L.L. Yi, S.L. Wang and J. Zhou	552
Investigation and Application of the Helicopter Typical Flight States Identification Z.H. Wan	556

The Optimization Design for Rack Tooth Profile Curve of Straight Push-Rod Linear Reducer	562
C.X. Zhou, Q.S. Huang and F. Guan	
Mechanisms of Synchronous Belt Tooth Failure due to Fatigue Shear Fracture	566
J.H. Guo, H.Y. Jiang and D.S. Li	
Precision Involute Gearboxes	570
B.R. Höhn, K. Stahl, H.P. Otto and H. Bauhoffer	
Study on Face Gear's Bending Stress Based on Test and Finite Element Analysis Method	574
Z.H. Huang and B. Tang	
Powertrain Control Logic Test for Plug-in Hybrid Electric Vehicle	579
M. Ye, Y.G. Liu and H. Shu	
Effect of Atomic-Scale Roughness on Contact Behavior	584
F.L. Duan, H.B. Qiu, J.M. Yang and C.Y. Wu	
The Technique of Centrifugal Load Loading on a Tail Rotor Shaft Fatigue Life Test	590
L.S. Lin	
The Design of the Tooth Shape Silence Chain	594
G.X. Yang	
Failure Analysis of Output Shaft in the Gearbox Transmission	598
W.J. Xu, Y.F. Chen, J. Wang and T. Wang	
Influence Factors and Calculating Methods for Gear Windage Power Loss	602
Y.Z. Ge, X.M. Lei, Y.C. Zhang and P. Liu	
Optimum Design of a 3-RRR Planar Parallel Manipulator with a Singularity-Free Workspace	606
M.W. Gao, X.M. Zhang and Z.W. Wu	
Study on Dynamic Load Sharing Behavior of Two-Stage Planetary Gear Train Based on a Nonlinear Vibration Model	611
T.J. Li, R.P. Zhu and H.Y. Bao	
Research on Milling-Turning Compound Processing of Spiral Bevel Gears Based on GibbsCAM	615
G.B. Tao, L.L. Yi, Z. Zheng and L.H. Hu	
Design of Wind Turbine Gearbox Housing	619
Q.F. Cao, H.Y. Du, Y.C. Zhang and P. Liu	
Numerical Analysis on Transmission Characteristics of Stephenson's Six-Bar Punching Mechanism with Servo Input	623
J.G. Hu, Y.S. Sun, Y.Q. Cheng and W.P. Ruan	
Research on the Knowledge Fusion Technology Based Optimized Design of the Drive Axle Differential Gear	629
K. Chen, C.W. Yao and G.F. Yin	
Modular Design on Basic Parameters of Volume Reducer	633
T. Wang, J. Shen and F.Q. Zhao	
An Accurate Modeling Method of the Plane Enveloping Hourglass Worm	637
X.A. Chen and L.M. Tang	
Behavior Test on Wind Turbine Gearbox	641
L.Y. Tan and J.B. Liu	
Rolling Contact Fatigue Life of Case-Hardened Steel Treated by Shot Peenings with Shot Diameters of 0.05 mm and 0.30 mm	645
L. Wang, G.L. Liu, M. Seki, M. Fujii and Q. Li	
Multiscale Analysis on Friction-Reducing Characteristics of Textured Surface in Nanoscale Sliding Contacts	649
R.T. Tong, G. Liu, L. Liu and S.J. Ma	
Study on Dynamic Characteristics of Wind Turbine Planetary Gear System Coupled with Bearing at Varying Wind Speed	653
Z.G. Zhou, D.T. Qin, J. Yang and H.T. Chen	
Design and Analysis for High-Speed Gear Coupling	658
X.M. Lei, Y.Z. Ge, Y.C. Zhang and P. Liu	
Dynamic Optimization Design of a Warship's Gearbox Based on FEM	662
Y.H. Xue, X.H. Li, Z.G. Wang and J. Song	

Optimum Design of Motion Curve of Cam Mechanism with Lowest Maximum Acceleration C.Q. Sun, A.H. Ren and G.X. Sun	666
Temperature Field and Residual Stress Analysis of the Gear on CO₂ Laser Welding Process J. Luo, F. Li, K.L. Xue, D.J. Liu and H.W. Zhang	670
Study of Load Distribution and Sharing Characteristics of Planetary Geartrain for Wind Turbines J.G. Kim, G.H. Lee, Y.J. Park, Y.Y. Nam and T.H. Chong	674
Study on Loads of Accelerated Contact Fatigue Testing and its Application H. Zuo, Y.C. Zhang, P. Liu, W. Wang and S. Xiong	680
The Optimization and Simulation of New Type Non-Circular Gears in CVT F.Y. Zheng, A.H. Ren, C.Q. Sun and G.X. Sun	684
Research of Simulation Technology in Low-Stress Machining on Tooth Surface of Spiral Bevel Gears Used in Aviation Industry Y.Z. Wang, Y.Y. Chen, X. Han, L.F. Wu and H. Zeng	688
Effect of Machining Precision Caused by NC Gear Hobbing Deformation S.L. Wang, Y. Yang, J. Zhou, Q. Li, S. Yang and L. Kang	692
Research on Lead Modification of Cylindrical Gears with Consideration of System Deformation S. Xiong, Y.C. Zhang, P. Liu, W. Wang and H. Zuo	696
Modeling and Analysis of Gear Driving System Based on the CATIA W. Cao and R. Wang	700
The Research on General Modeling Methods of the Complicated Transmission Based on Hypergraph Theory C.L. Xiang, Y.Y. Zhang, H. Liu and M. Cui	704
A Simplified Approach Based Phase Angle for Tooth Contact Analysis of Planetary Gear Trains K. Xu, G. Liu, X.Z. Deng, J.J. Yang and J.X. Su	709
Effect of Friction Coefficient on the Stiffness Excitation of Gear Y.M. Hu, D.S. Xue and Y.J. Pi	713
Structural Design and Analysis of Thrust Collar in Main Wind Turbine Speed-Increasing Gearboxes Q.Q. Xiang, M. Li, Y.C. Zhang and H.B. Zhou	717
Study of Bearing Modelling in the Helicopter Gearbox L. Zamponi, E. Mermoz and J.M. Linares	721
Static Load Sharing in Power-Split Planetary Gear Trains Y. Li, G. Liu and G.L. Liu	725
Solid Modeling Methods and Wire-Cutting Process Simulation of Non-Circular Gears M. Zhang, D.Y. Kong, J.L. Zhao, Y.P. Liu and C.B. Hu	730
Gearbox Fault Diagnosis Using Vibration Signal with Wavelet De-Noising Z.F. Dong, H. Cheng, H.J. Yang, W. Fu, J.W. Chen, Z.Y. Shi and D.L. Zhao	735
Dynamic Analysis and Experimental Study of MW Wind Turbine Gearbox H.J. Wang, X.S. Du and X.Y. Xu	739
Determination of Load-Sharing Displacement of Flexible Pin Roll in Planet Gear Train Y.C. Zhang, L. Tan, P. Liu and H.B. Zhou	743
Research on Vibration Influence Chart of Planetary Gear Systems L.H. Chang, G. Liu, L.Y. Wu and Z.H. Bu	747
Improvement of Positioning Error on a Ball Screw by Cooling System Z.Z. Xu, Q. Zhang and S.K. Lyu	752
A Discrete Lumped-Parameter Dynamic Model for a Planetary Gear Set with Flexible Ring Gear J. Zhang, Y.M. Song and J.Y. Xu	756
Modeling and Controlling of Anti-Slip Regulation Based on Limited-Slip Differential J.J. Hu, P. Ge, Z.B. He and D.T. Qin	762
Advanced Methods of Gas Turbine Reducer Design and its Analyses L. Xiao and R.M. Li	767
Deformation of Harmonic Drive in Transmission State Based on Contact Analysis with Shell Element Tooth X.X. Chen, S.Z. Lin, J.Z. Xing and Y.S. Liu	771

Research on Torsional Dynamic Model and Rigidity Excitation of Cycloid Ball Planetary Transmission System	775
P. Zhang, Z.J. An and Z.M. Yang	
Coordinated Torque Control for Mode-Switch between Motor and Engine Driving in Heavy Hybrid Electric Vehicle	779
Y. Yang, J.F. Huang, D.T. Qin and W.H. Yang	
Analysis of Winding Dynamics of Film Web on Winder	784
G. Li and Y. Sun	
Life Estimation of Tilt-Rotor Transmission Based on Dynamic Analysis	788
J.S. Guo, S.M. Wang and H.X. Liu	
Fluid Dynamic Analysis and Experimental Study on Wet Friction Clutch	792
T.J. Lin, L. Pan and S.J. Zhang	
Study on Visualization of Planetary Gear Based on Topological Theory	797
X.Y. Shi	
Strategy Study on Comfort Optimization of Metro Train Traction	801
C.M. He, H. Li, G.S. Fei and S.J. Pang	
Numerical Analysis of Concave-Slab Type Water Lubricated Rubber Alloy Bearings' Lubrication	805
J.X. Wang, Y.F. Han, G.W. Zhou, K. Xiao, Y. Qin and S. Wu	
The Analysis of Gear Contact under Cyclical Load	809
L.P. Wang, Y.Q. Xu and Y. Yuan	
Initial Behavior of Speed Increasing Helical Gears by Torque Fluctuation	813
C.I. Park	
Static Simulation Analysis of Torsion Characteristics of Highly Flexible Coupling	817
K. Xiao, J.X. Wang, J.M. Li and Y.M. Zheng	
Using Lubricating Oil Filter Debris Analysis to Monitor Abnormal Wear of Aero-Engine	821
Z.X. Zhu, J.Z. Zheng and D. Chen	
Research on Gear Contact Fatigue Stress Test	825
T. Wang, H.M. Li, R.L. Zhang and Z.F. Wu	
A Load Spectrum Method for Multi-Stage Planetary Transmission	829
C.F. Hu and Y.Q. Tan	
The Design of Power Transmission of Electric Screw Press Directly Driven by Permanent Magnet Disc Synchronous Motor	833
J.T. Liang, S.D. Zhao, Y.L. Zhao and Z.Y. Sun	
Scanning Measurement and Evaluation of Gear Tooth Root and Bottom Profiles	838
S. Kurokawa, H. Kido, T. Taguchi, T. Okada, O. Ohnishi and T.K. Doi	
A Method to Determine the Basic Value of Gear Root Stress Based on FEM	842
J. Zhang, H.C. Wu and H.J. Wang	
Development and Application of Non-Contact Seal Assembly for High-Speed Shaft Ends	846
P. Liu, Q.P. Ou, H.B. Zhou and M. Li	
Stress Analysis of the Skewed-Roller Slipping Clutch Based on Frictional Contact and Dynamic Equilibrium	850
M. Feng and G.R. Yan	
Optimization of New Type Sintering Machine's Sprocket Wheel with Even-Number Teeth	854
M.H. Bai, L.B. An, S.B. Ren and L.J. Wang	
Optimum Design of Toggle Transmission System in Double Toggle Mechanical Press Using Response Surface Methodology Combined with Experimental Design	858
J. Xie, S.D. Zhao, Z.H. Sha and J.T. Liang	
Original Research on Logarithmic Spiral Bevel Gear	863
H.B. Yan, Q. Li, Z.L. Wei and S.Q. Wu	
Effects of Surface Roughness and Abnormal Surface Layer on Fatigue Strength	867
G. Deng, S. Suzuki and T. Nakanishi	
Precise Modeling of Arc Cylinder-Gears with Tooth Root Fillet	871
Y.M. Cui, Z.D. Fang, J.Z. Su and Y.P. Liu	
Study on 18Cr2Ni4WA Gear Contact Fatigue Experiment and Data Analysis	875
Z.F. Wu, T. Wang, R.L. Zhang and H.M. Li	
Thermal Analysis of Axial Driving System for Numerically Controlled Machine Tool	879
B. Li, H.R. Cao and Z.L. Yang	

Reduction of Power Losses in Transmissions and Gearings F.J. Joachim, N. Kurz and J. Börner	883
Manufacturing Method of Long-Cone-Distance Spiral Bevel Gears Based on CNC Machining Center B.Z. Lei, B. Zhang and H. Zhang	889
Analysis of Gas Dynamics in a Rotating Disk Cavity Y. Liu, Y.H. Zhang, G.D. Chen and R. Wan	893
Micropitting in Wind Turbine Gearboxes: Calculation of the Safety Factor and Optimization of the Gear Geometry H. Dinner	898
Modal Analysis and Parameters Research of Internal Helical Gears Based on AWE Y.J. Gong, X.Y. Wang, H. Zhao and K. Huang	904
Analysis on Deformation and Relieving of Spline in 1.5MW Wind Turbine Gearbox M. Zhang, L.Y. Zhang, Y.H. Bao, F. Gao and C. Wang	908