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**Session 1 - Overview**

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- 1.1.1 Qiuya Ni, Guofeng Lou, Jun Wang, Yuanlong Kan, Xiangyi Meng, Yousheng Zhao, Laishun Yao, Jianzhong Tong  
*The Latest Experimental and Analytical Results of Chinese 25 MWt Coal -Fired MHD Generator*
- 1.2.1 H.F. Chambers, W.R. Owens, J.C. Cutting  
*Preserving MHD Technology for the Future*

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**Session 2 - Closed Cycle**

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- 2.1.1 H. Nakamura, K. Hirokawa, H. Funai, K. Takayama, T. Okamura, S. Shioda  
*Isentropic Efficiency of Shock-Tube Driven Disk MHD Generator*
- 2.2.1 T. Suekane, R. Yoshiie, Y. Okuno, S. Kabashima, H. Yamasaki  
*Experimental Studies on Adiabatic Efficiency of Closed Cycle Faraday MHD Generator with Helium and Argon Working Gases*
- 2.3.1 Yoshitaka Inui, Motoo Ishikawa  
*Operation and Control of Closed-Cycle Disk MHD Generator Connected to Electric Power System*
- 2.4.1 S. Lesin, M. Tsirlin, H. Branover  
*Corrosion Studies Related to LMMHD Power Systems*
- 2.5.1 T.M. Marinchenko and V.M. Zubtsov  
*Seed Fluctuation Control and Measurement in Closed Cycle MHD Power Conversion*

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**Session 3 - Pulsed MHD**

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- 3.1.1 Tetsuji Matsuo, Hiroyuki Sugita, Motoo Ishikawa, V.A. Zeigarnik  
*Numerical Analysis of Asymmetric Strong Shock Wave in Pulsed MHD Generator*
- 3.2.1 C.A. Borghi, P.L. Ribani  
*Two Step Flow Regime in a Linear MHD Generator*

- 3.3.1 Ron J. Litchford, Bryan R. Thompson, Bor-Chyuan Lin, John T. Lineberry,  
*Recent Results of T-Layer MHD Power Extraction Experiment*
- 3.4.1 V.A. Novikov  
*Pulsed Non-Equilibrium MHD Generator With Application of Self-Propagating High Temperature Synthesis*
- 3.5.1 Victor P. Panchenko  
*Numerical Analysis of Electrodynamics for Pulsed MHD Generators*
- 3.6.1 R.V. Dogadayev, O.G. Matveyenko, A.A. Yakushev, G.I. Afonin, V. G. Butov, A.A. Smirnov  
*Optimization Methods of Linear Channels of Supersonic MHD Generators*

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#### **Session 4 - Applications**

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- 4.1.1 J. P. Foote, B.C. Lin, J.T. Lineberry  
*Application of Closed Cycle MHD to Advanced Power Cycles*
- 4.2.1 J.T. Lineberry, B.C. Lin, R. Litchford  
*Design Study of Rocket Based MHD Generator*
- 4.3.1 A.V. Erofeev, R.V. Vasil'eva, T.A. Lapushkina, A.D. Zuev  
*On Possibility of Pre-Ionized Air Using in an MHD Generator on Aerospace Plane*
- 4.4.1 V.A. Bityurin, V.G. Potebnja, V.I. Alferov  
*On MHD Control of Hypersonic Flows. Planning of Experimental Studies of MHD Effects on Bow Shock*
- 4.5.1 V.A. Bityurin, A.N. Botcharov, V. G. Potebnja  
*An Alternative Space Energy Source with an On-Board MHD Generator*

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#### **Session 5 - Combustion, Heat Transfer and Power Generation**

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- 5.1.1 Longyun Kang, Yoshitaka Inui, Tetsuji Matsuo, Motoo Ishikawa, Juro Umoto  
*Load Segmentation of Ar-Cs Disk MHD Generator and Inverter System*

- 5.2.1 H. Yamasaki, M. Suzuki, M. Takata, R. Hanaoka, K. Tikamura,  
N. Yamaguchi, K. Wada, M. Okubo  
*Achievement of Highest Adiabatic Efficiency in Disk CCMHD  
Generator with Ar/Cs*
- 5.3.1 Hajime Nakamura, Koji Hirokawa, Hideki Funai, Kunio  
Takayama, Tersuji Okamura, Susumu Shioda  
*Isentropic Efficiency of Shock-Tube Driven Disk MHD Generator*
- 5.4.1 Song Xiangdong, Ju Zixiang  
*Calculation for a Coal-Fired MHD Channel with a New Electrical  
Model*
- 5.5.1 Song Xiangdong, Ju Zixiang  
*A New Approximate Analytic Relation Between the Load Factor and  
the Load Resistance for Segmented Faraday MHD Channels*
- 5.6.1 V. Mokhov, A.P. Nefedov, B.V. Rogov, Va.A. Sinel'shchikov,  
A.D. Usachev, A.V. Zobnin, H.B. Levinski  
*Influence of Near Wall Region on CO Content in Relaxing Flow of  
Combustion Products*
- 5.7.1 V. Yu. Rickman  
*Comparison of Fuel Compositions for MHD Generators from the Point  
of View of Possible Maximum Power Extraction from Unit of the Mass  
Flow Rate of Combustion Products*

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#### Session 6 - Plasma Physics and MHD

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- 6.1.1 M. Ishikawa, K. Tamai, K. Tateishi, J. Umoto, V. A. Bityurin  
*Three-Dimensional Arcing Phenomena in an MHD Faraday Channel*
- 6.2.1 A. Yu Sokolov, Y. Okuno  
*Consequent Disk MHD Generators with Nonequilibrium Ionization of  
Inert Gas*
- 6.3.1 Nob. Harada  
*Studies on Working Plasma for New CCMHD Power Generation*
- 6.4.1 O. Safronova, S. Kabashima  
*Analysis of Energy Spectrums of Non-Equilibrium MHD Plasma*
- 6.5.1 V.M. Zubtsov  
*Interactions Between Ionization Instability, Flow Turbulence and Seed  
Fraction Fluctuations in Closed Cycle MHD Generator*

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### Session 7 - Open Cycle

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- 7.1.1 N. Kayukawa, Y. Aoki, K. Ohtake  
*MHD/Gas/Steam Combined System with Thermochemical Coal Conversion*
- 7.2.1 Takeshi Iwashita, Tetsuji Matsuo, Motoo Ishikawa, Juro Umoto  
*Effects of Loading Conditions on Stability of Commercial-Scale Diagonal Type MHD Generator*

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### Session 8 - Diagnostics 'A'

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- 8a.1.1 H. Kikuchi, N. Okinaka, K. Mitsuhashi, Y. Aoki, N. Kayukawa  
*Visualization of the Velocity Field in Magnetic Resonance Imaging*
- 8a.2.1 N. Kayukawa, K. Murakami, Y. Aoki, S. Yatsu  
*Diagnostics of Combustion Plasmas with Highly Biased Wing Intensities*
- 8a.3.1 C.B. Winstead, P.R. Jang, G.P. Miller  
*Continuous Emission Monitoring Using Cavity Ringdown Spectroscopy*
- 8a.4.1 David L. Monts, Yi Su, Abhilasha Trivedi, Ping-Rey Jang, Yaqin Hong, Sushil Singh, Robert L. Cook, W. Steve Shepard  
*Development of Laser Optogalvanic Spectrometry as a Real-Time, On-Line Monitor of Species of Environmental Concern*
- 8a.5.1 Leslie E. Bauman  
*Monitoring Temperature and Velocity in an MHD Flow*

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### Session 8 - Diagnostics 'B'

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- 8b.1.1 J.P. Singh, H. Zhang, F.Y. Yueh, R.L. Cook  
*Toxic Multi-Metal Continuous Emission Monitoring by Laser-Induced Breakdown Spectroscopy*
- 8b.2.1 Shimin Wang, Jing He, Yiqian Xu  
*Measurement of Particle Size Distributions from Near Forward Scattering Spectrum*
- 8b.3.1 A.P. Nefedov, V.A. Sinel'shchikov, A.D. Usachev  
*Reduced Absorption Coefficient in Wings of the Na-D Doublet Broadened by O<sub>2</sub>, N<sub>2</sub>, CO<sub>2</sub>, and H<sub>2</sub>O Molecules*

- 8b.4.1 Olga S. Vaulina, Anatoli P. Nefedov, Oleg F. Petrov, Alex A. Samarian, Alex V. Chernyshev, Mikle V. Taranin  
*Optical Diagnostics of Particles in High-Temperature Flows* \*
- 8b.5.1 Olga S. Vaulina, Anatoli P. Nefedov, Oleg F. Petrov, Alex A. Samarian, Andrew M. Lipaev  
*Optical and Probe Diagnostics of Charged Dust Particles in a Thermal Plasma*
- 8b.6.1 S.V. Yakshin, I.V. Tikhonov, V.M. Zubtsov  
*Three-Dimensional Flow Visualization by Means of Tracer Particles' Images*

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### **Addendum**

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- 9.1.1 V.S. Slavin, P.A. Zakharov, K.A. Finnikov, M.V. Kraev  
*Space Power-Propulsion Plant on MHD Generator and MHD Accelerator that Use an Effect of T-Layer*
- 9.2.1 V.S. Slavin, K.A. Finnikov  
*T-Layer in the Conditions of Nonequilibrium Plasma of Noble Gas*