



ELSEVIER

Journal of Power Sources 86 (2000) 571–577

JOURNAL OF
**POWER
SOURCES**

www.elsevier.com/locate/jpowsour

Subject Index of Volume 86

- Absorption of carbon dioxide
Hydrogen production; Gas purification; Simulation of fuel cell systems; Methanation (Ledjeff-Hey, K. (86) 556)
- Absorption refrigerator
Phosphoric acid fuel cell; Heat recovery; Cogeneration (Ishizawa, M. (86) 294)
- Adsorption
Methanol; Polarisation; Efficiency; Catalysis (Verma, L.K. (86) 464)
- Alkaline electrolyte
Hybrid car; Ammonia dissociator (Kordesch, K. (86) 162)
- All-electric ship
Fuel cells; Surface ships; Submarines; Reformer (Sattler, G. (86) 61)
- Ammonia dissociator
Hybrid car; Alkaline electrolyte (Kordesch, K. (86) 162)
- Anaerobic digester gas
Fuel cell; Cleanup system (Spiegel, R.J. (86) 283)
- Anode
Polymer electrolyte fuel cell; CO poisoning (Isono, T. (86) 269)
SOFCs; Internal reforming; Methane; Natural gas (Finnerty, C.M. (86) 390)
SOFCs; Reforming; Ceria; Fuel; Methane (Livermore, S.J.A. (86) 411)
- Anode gas recycling
Steam reforming; Pre-reformer; Solid oxide fuel cells (Peters, R. (86) 432)
- Anode-supported cell
Solid oxide fuel cell; Concentration polarization; Modeling; Diffusion of gases (Yakabe, H. (86) 423)
- Applications
Competition; Markets; Barriers (Rastler, D. (86) 34)
- Autothermal reforming
Propane reformer; Compact system; Decentralised power generation (Rampe, T. (86) 536)
- Barriers
Competition; Markets; Applications (Rastler, D. (86) 34)
- Batteries
Electrolyte emulsions; Oxygen carriers; Oxygen cathodes; Fuel cells (Kronberger, H. (86) 562)
- Battery
Fuel cell; Scooter; Motorcycle; Bicycle; Electric (Colella, W.G. (86) 255)
- Berlin
Polymer electrolyte fuel cell; Stationary application (Pokojski, M. (86) 140)
- Bicycle
Fuel cell; Scooter; Motorcycle; Electric; Battery (Colella, W.G. (86) 255)
- Bipolar plate
Solid Polymer Fuel Cell (Makkus, R.C. (86) 274)
- Bipolar plates
Hydrogen; Thermal cracking of propane; Catalytic cracking of propane PEFC; Carbon-polymer; Composite materials (Ledjeff-Hey, K. (86) 166)
Solid polymer fuel cells; Stainless steel; Passivation; Corrosion (Davies, D.P. (86) 237)
- Bus
Fuel cell; Road vehicle (Charnah, R.M. (86) 130)
- Buses
Fuel cell; Emissions; Carbon dioxide; Cars; CHP; Electricity (Bauen, A. (86) 482)
- Butane
Micro-SOFC; Pre-reformer; Combustion; Catalyst (Finnerty, C. (86) 459)
- CARB
Fuel cell; Zero-emission vehicle; Hydrogen; Methanol (Lloyd, A.C. (86) 57)
- Carbon black
Polymer electrolyte fuel cell; Gas diffusion; Porosity (Jordan, L.R. (86) 250)
- Carbon deposition
Fuel cell power plant; Stainless steel; FE-TEM; XPS; Morphology; Catalytic metal (Sone, Y. (86) 334)
- Carbon dioxide
Methane; Landfill gas (Staniforth, J. (86) 401)
Fuel cell; Emissions; Cars; Buses; CHP; Electricity (Bauen, A. (86) 482)
- Carbon dioxide removal
Solid-oxide fuel cell; Tubular fuel cell; Combined cycle; Plant simulation (Riensche, E. (86) 404)
- Carbon-polymer
Hydrogen; Thermal cracking of propane; Catalytic cracking of propane PEFC; Bipolar plates; Composite materials (Ledjeff-Hey, K. (86) 166)
- Cars
Fuel cell; Emissions; Carbon dioxide; Buses; CHP; Electricity (Bauen, A. (86) 482)
- Catalysis
Methanol; Polarisation; Efficiency; Adsorption (Verma, L.K. (86) 464)
- Catalyst
Micro-SOFC; Pre-reformer; Combustion; Butane (Finnerty, C. (86) 459)
- Catalyst ageing
Compact methanol reformer; Dynamic operation; Fuel cell drive system (Peters, R. (86) 507)
- Catalytic burner
Compact methanol reformer; Peak load energy storage; Fuel cell drive system; PEM fuel cell; Full fuel cycle (Emonts, B. (86) 228)

- Catalytic cracking of propane PEFC
Hydrogen; Thermal cracking of propane; Bipolar plates; Carbon-polymer; Composite materials (Ledjeff-Hey, K. (86) 166)
- Catalytic metal
Carbon deposition; Fuel cell power plant; Stainless steel; FE-TEM; XPS; Morphology (Sone, Y. (86) 334)
- Cathode
Li–Ni–Co–O oxides; Molten carbonate; Fuel cell; Reduction mechanism (Pérez, F.J. (86) 309)
- Cathode catalyst layer
PEM fuel cells; Water flooding (Baschuk, J.J. (86) 181)
- Ceramic powder
Citrate; Nitrate; Lanthanum chromite (Zupan, K. (86) 417)
- Ceria
SOFCs; Reforming; Anode; Fuel; Methane (Livermore, S.J.A. (86) 411)
- Cermet
Ni–YSZ; Solid oxide fuel cell anode; Gel-precipitation (Marinšek, M. (86) 383)
- CHP
Fuel cell; Emissions; Carbon dioxide; Cars; Buses; Electricity (Bauen, A. (86) 482)
- Citrate
Nitrate; Lanthanum chromite; Ceramic powder (Zupan, K. (86) 417)
- Cleanup system
Fuel cell; Anaerobic digester gas (Spiegel, R.J. (86) 283)
- Climate-friendly technologies
CO₂ emissions; Fuel cells; Market barriers (Jørgen Koch, H. (86) 2)
- CO₂ emissions
Fuel cells; Climate-friendly technologies; Market barriers (Jørgen Koch, H. (86) 2)
- Cogeneration
Phosphoric acid fuel cell; Absorption refrigerator; Heat recovery (Ishizawa, M. (86) 294)
- Combined cycle
Solid-oxide fuel cell; Tubular fuel cell; Carbon dioxide removal; Plant simulation (Riensche, E. (86) 404)
- Combined cycles
Solid oxide fuel cell; Gas turbine; Modelling; High efficiency (Palsson, J. (86) 442)
- Combined heat and power
Micro-SOFC; Leisure application; Micro-hybrid vehicle (Tompsett, G.A. (86) 376)
- Combustion
Micro-SOFC; Pre-reformer; Catalyst; Butane (Finnerty, C. (86) 459)
- Commercial
Molten carbonate fuel cells; Market applications (Dicks, A. (86) 316)
- Compact methanol reformer
Catalytic burner; Peak load energy storage; Fuel cell drive system; PEM fuel cell; Full fuel cycle (Emonts, B. (86) 228)
- Dynamic operation; Catalyst ageing; Fuel cell drive system (Peters, R. (86) 507)
- Compact system
Autothermal reforming; Propane reformer; Decentralised power generation (Rampe, T. (86) 536)
- Competition
Markets; Applications; Barriers (Rastler, D. (86) 34)
- Composite materials
Hydrogen; Thermal cracking of propane; Catalytic cracking of propane PEFC; Bipolar plates; Carbon-polymer (Ledjeff-Hey, K. (86) 166)
- Computational fluid dynamics
Polymer electrolyte membrane fuel cells; Gas flow distribution; Grooved plate; Porous materials (Hontañón, E. (86) 363)
- Concentration polarization
Solid oxide fuel cell; Anode-supported cell; Modeling; Diffusion of gases (Yakabe, H. (86) 423)
- CO poisoning
Polymer electrolyte fuel cell; Anode (Isono, T. (86) 269)
- Coprecipitation method
Lanthanum manganite; SOFC; Sintering characteristics; Perovskite (Mori, M. (86) 395)
- Corrosion
Solid polymer fuel cells; Bipolar plates; Stainless steel; Passivation (Davies, D.P. (86) 237)
- Molten salt; Intermetallic compound; Plating (Kawabata, Y. (86) 324)
- Molten carbonates; Nickel oxide; Fuel cell cathodes; Lithiation (Daza, L. (86) 329)
- CO selective oxidation
Fuel processing; Fuel cell vehicle (Dudfield, C.D. (86) 214)
- Cost-of-electricity
MCFC stack; MCFC system; Endurance; Lifetime; 40,000 h (Huijmans, J.P.P. (86) 117)
- CO-tolerance
Impinging jet; Flow cell; Fuel cell catalyst; Ru-modification (Koponen, U. (86) 261)
- Decentralised power generation
Autothermal reforming; Propane reformer; Compact system (Rampe, T. (86) 536)
- Diffusion of gases
Solid oxide fuel cell; Anode-supported cell; Concentration polarization; Modeling (Yakabe, H. (86) 423)
- Direct methanol fuel cell
Transport application; Portable power application; Methanol crossover (Ren, X. (86) 111)
- Distributed generation
Solid oxide fuel cells; Electric generation systems (Godfrey, B. (86) 68)
- DMFC
Fuel cell; Modelling; Mixed potential (Dohle, H. (86) 469)
- Dry layer preparation
Membrane–electrode assemblies; Polymer membrane fuel cell (Güldzow, E. (86) 352)
- Durability
PAFC power plant; Track record; Reliability (Kasahara, K. (86) 298)
- Dynamic modelling
Solid oxide fuel cells; Power Systems Simulation; Systems integration (Padullés, J. (86) 495)
- Dynamic operation
Compact methanol reformer; Catalyst ageing; Fuel cell drive system (Peters, R. (86) 507)
- Economics
Hydrogen; Methanol; Safety; Efficiency; Emissions (Adamson, K.-A. (86) 548)
- Efficiency
Methanol; Polarisation; Catalysis; Adsorption (Verma, L.K. (86) 464)
- Hydrogen; Methanol; Safety; Economics; Emissions (Adamson, K.-A. (86) 548)
- Electric
Motorcycle; Scooter; Internal combustion engine; Hybrid engine; Fuel cell (Wang, J.H. (86) 151)
- Fuel cell; Scooter; Motorcycle; Bicycle; Battery (Colella, W.G. (86) 255)
- Electric generation systems
Solid oxide fuel cells; Distributed generation (Godfrey, B. (86) 68)
- Electricity
Fuel cell; Emissions; Carbon dioxide; Cars; Buses; CHP (Bauen, A. (86) 482)
- Electrochemical model
PEM fuel cell (Mann, R.F. (86) 173)

- Electrolyte emulsions
Oxygen carriers; Oxygen cathodes; Fuel cells; Batteries (Kronberger, H. (86) 562)
- Electrooxidation
Pt–Ru catalyst; Methanol oxidation (Lee, C.H. (86) 478)
- Emissions
Fuel cell; Carbon dioxide; Cars; Buses; CHP; Electricity (Bauen, A. (86) 482)
Hydrogen; Methanol; Safety; Economics; Efficiency (Adamson, K.-A. (86) 548)
- Endurance
MCFC stack; MCFC system; Lifetime; Cost-of-electricity; 40,000 h (Huijsmans, J.P.P. (86) 117)
- Energy storage
Fuel cell; Power (Smith, W. (86) 74)
- European Commission
Fifth Framework for Research; Fuel cells; Fuel processing (Borthwick, W.K.D. (86) 52)
- FE-TEM
Carbon deposition; Fuel cell power plant; Stainless steel; XPS; Morphology; Catalytic metal (Sone, Y. (86) 334)
- Fifth Framework for Research
European Commission; Fuel cells; Fuel processing (Borthwick, W.K.D. (86) 52)
- Flow cell
Impinging jet; Fuel cell catalyst; Ru-modification; CO-tolerance (Koponen, U. (86) 261)
- Forecast
Fuel cell; Residential; Market (Sammes, N.M. (86) 98)
- Fuel
SOFCs; Reforming; Ceria; Anode; Methane (Livermore, S.J.A. (86) 411)
- Fuel cell
Power plant; IFC (King, J.M. (86) 16)
Sustainability; Future energy conversion; Renewable energy (Hart, D. (86) 23)
CARB; Zero-emission vehicle; Hydrogen; Methanol (Lloyd, A.C. (86) 57)
Energy storage; Power (Smith, W. (86) 74)
Forecast; Residential; Market (Sammes, N.M. (86) 98)
Road vehicle; Bus (Charnah, R.M. (86) 130)
Motorcycle; Scooter; Internal combustion engine; Hybrid engine; Electric (Wang, J.H. (86) 151)
Scooter; Motorcycle; Bicycle; Electric; Battery (Colella, W.G. (86) 255)
Anaerobic digester gas; Cleanup system (Spiegel, R.J. (86) 283)
Li–Ni–Co–O oxides; Molten carbonate; Cathode; Reduction mechanism (Pérez, F.J. (86) 309)
DMFC; Modelling; Mixed potential (Dohle, H. (86) 469)
Emissions; Carbon dioxide; Cars; Buses; CHP; Electricity (Bauen, A. (86) 482)
SPFC; Methanol supply; Fuel infrastructure; Fuel cost (Hart, D. (86) 542)
- Fuel cell catalyst
Impinging jet; Flow cell; Ru-modification; CO-tolerance (Koponen, U. (86) 261)
- Fuel cell cathodes
Molten carbonates; Nickel oxide; Corrosion; Lithiation (Daza, L. (86) 329)
- Fuel cell drive system
Compact methanol reformer; Catalytic burner; Peak load energy storage; PEM fuel cell; Full fuel cycle (Emonts, B. (86) 228)
Compact methanol reformer; Dynamic operation; Catalyst ageing (Peters, R. (86) 507)
- Fuel cell plant
Modelling; Steam reforming; Plate heat exchanger (Cunha, J. (86) 515)
- Fuel cell power plant
Carbon deposition; Stainless steel; FE-TEM; XPS; Morphology; Catalytic metal (Sone, Y. (86) 334)
- Fuel cells
CO₂ emissions; Climate-friendly technologies; Market barriers (Jørgen Koch, H. (86) 2)
European Commission; Fifth Framework for Research; Fuel processing (Borthwick, W.K.D. (86) 52)
Surface ships; Submarines; All-electric ship; Reformer (Sattler, G. (86) 61)
Hydrogen; Syngas; Reformer (Vollmar, H.-E. (86) 90)
SOFC; Rolls-Royce (Gardner, F.J. (86) 122)
SOFC; Solid oxide fuel cells; Tubular SOFC (George, R.A. (86) 134)
Electrolyte emulsions; Oxygen carriers; Oxygen cathodes; Batteries (Kronberger, H. (86) 562)
- Fuel cell stack
US Department of Energy (DOE); Partnership for a New Generation of Vehicles (PNGV); Polymer electrolyte membrane (PEM) fuel cells; Fuel processing (Chalk, S.G. (86) 40)
- Fuel cell vehicle
Fuel processing; CO selective oxidation (Dudfield, C.D. (86) 214)
Fuel processor; Methanol; Reformer; Metal membrane (Han, J. (86) 223)
- Fuel cell vehicles
Scooter; System modeling (Lin, B. (86) 202)
- Fuel cost
SPFC; Fuel cell; Methanol supply; Fuel infrastructure (Hart, D. (86) 542)
- Fuel infrastructure
TES project; Propulsion (Heuer, W. (86) 158)
SPFC; Fuel cell; Methanol supply; Fuel cost (Hart, D. (86) 542)
- Fuel processing
US Department of Energy (DOE); Partnership for a New Generation of Vehicles (PNGV); Polymer electrolyte membrane (PEM) fuel cells; Fuel cell stack (Chalk, S.G. (86) 40)
European Commission; Fifth Framework for Research; Fuel cells (Borthwick, W.K.D. (86) 52)
CO selective oxidation; Fuel cell vehicle (Dudfield, C.D. (86) 214)
- Fuel processor
Methanol; Reformer; Metal membrane; Fuel cell vehicle (Han, J. (86) 223)
- Full fuel cycle
Compact methanol reformer; Catalytic burner; Peak load energy storage; Fuel cell drive system; PEM fuel cell (Emonts, B. (86) 228)
- Future energy conversion
Sustainability; Fuel cell; Renewable energy (Hart, D. (86) 23)
- Gas diffusion
Polymer electrolyte fuel cell; Carbon black; Porosity (Jordan, L.R. (86) 250)
- Gas flow distribution
Polymer electrolyte membrane fuel cells; Computational fluid dynamics; Grooved plate; Porous materials (Hontañón, E. (86) 363)
- Gas flow rate
Gas starvation; Phosphoric acid fuel cell performance (Song, R.-H. (86) 289)
- Gas purification
Hydrogen production; Simulation of fuel cell systems; Absorption of carbon dioxide; Methanation (Ledjeff-Hey, K. (86) 556)
- Gas starvation
Gas flow rate; Phosphoric acid fuel cell performance (Song, R.-H. (86) 289)

- Gas turbine**
 Solid oxide fuel cell; Combined cycles; Modelling; High efficiency
 (Palsson, J. (86) 442)
- Gel-precipitation**
 Ni–YSZ; Cermet; Solid oxide fuel cell anode (Marinšek, M. (86) 383)
- Grooved plate**
 Polymer electrolyte membrane fuel cells; Gas flow distribution; Computational fluid dynamics; Porous materials (Hontañón, E. (86) 363)
- 40,000 h**
 MCFC stack; MCFC system; Endurance; Lifetime; Cost-of-electricity
 (Huijsmans, J.P.P. (86) 117)
- Hanwha membrane**
 Net electro-osmotic drag coefficient; Water supply; Nafion; PEMFC;
 Water transport (Choi, K.-H. (86) 197)
- Heat recovery**
 Phosphoric acid fuel cell; Absorption refrigerator; Cogeneration
 (Ishizawa, M. (86) 294)
- High efficiency**
 Solid oxide fuel cell; Gas turbine; Combined cycles; Modelling
 (Palsson, J. (86) 442)
- Hybrid**
 Solid oxide fuel cell; Internal reforming; PEM (Dicks, A.L. (86) 501)
- Hybrid car**
 Alkaline electrolyte; Ammonia dissociator (Kordesch, K. (86) 162)
- Hybrid engine**
 Motorcycle; Scooter; Internal combustion engine; Electric; Fuel cell
 (Wang, J.H. (86) 151)
- Hydrogen**
 Fuel cell; CARB; Zero-emission vehicle; Methanol (Lloyd, A.C. (86) 57)
 Fuel cells; Syngas; Reformer (Vollmar, H.-E. (86) 90)
 Thermal cracking of propane; Catalytic cracking of propane PEFC;
 Bipolar plates; Carbon-polymer; Composite materials (Ledjeff-Hey, K. (86) 166)
 Steam–iron process; Water cleavage (Hacker, V. (86) 531)
 Methanol; Safety; Economics; Efficiency; Emissions (Adamson, K.-A. (86) 548)
- Hydrogen production**
 Gas purification; Simulation of fuel cell systems; Absorption of carbon dioxide; Methanation (Ledjeff-Hey, K. (86) 556)
- IFC**
 Fuel cell; Power plant (King, J.M. (86) 16)
- Impinging jet**
 Flow cell; Fuel cell catalyst; Ru-modification; CO-tolerance (Koponen, U. (86) 261)
- Intermetallic compound**
 Molten salt; Corrosion; Plating (Kawabata, Y. (86) 324)
- Internal combustion engine**
 Motorcycle; Scooter; Hybrid engine; Electric; Fuel cell (Wang, J.H. (86) 151)
- Internal reforming**
 SOFCs; Anode; Methane; Natural gas (Finnerty, C.M. (86) 390)
 Solid oxide fuel cell; PEM; Hybrid (Dicks, A.L. (86) 501)
- Japan**
 Molten carbonate fuel cell; PAC test; Power generation test (Ishikawa, T. (86) 145)
- Landfill gas**
 Methane; Carbon dioxide (Staniforth, J. (86) 401)
- Lanthanum chromite**
 Citrate; Nitrate; Ceramic powder (Zupan, K. (86) 417)
- Lanthanum manganite**
 SOFC; Coprecipitation method; Sintering characteristics; Perovskite
 (Mori, M. (86) 395)
- La(Sr)CoO_{3-δ} cathode**
 Solid oxide fuel cell; SOFC; Reduced temperature; Spray pyrolysis;
 Life time (Inagaki, T. (86) 347)
- Leisure application**
 Micro-SOFC; Combined heat and power; Micro-hybrid vehicle
 (Tompsett, G.A. (86) 376)
- LiCoO₂**
 Molten Carbonate Fuel Cells; New cathode structure; Solubility
 (Fukui, T. (86) 340)
- Lifetime**
 MCFC stack; MCFC system; Endurance; Cost-of-electricity; 40,000 h
 (Huijsmans, J.P.P. (86) 117)
- Life time**
 Solid oxide fuel cell; SOFC; Reduced temperature; La(Sr)CoO_{3-δ} cathode; Spray pyrolysis (Inagaki, T. (86) 347)
- Li–Ni–Co–O oxides**
 Molten carbonate; Fuel cell; Cathode; Reduction mechanism (Pérez, F.J. (86) 309)
- Lithiation**
 Molten carbonates; Nickel oxide; Fuel cell cathodes; Corrosion (Daza, L. (86) 329)
- Market**
 Fuel cell; Forecast; Residential (Sammes, N.M. (86) 98)
- Market applications**
 Molten carbonate fuel cells; Commercial (Dicks, A. (86) 316)
- Market barriers**
 CO₂ emissions; Fuel cells; Climate-friendly technologies
 (Jørgen Koch, H. (86) 2)
- Markets**
 Competition; Applications; Barriers (Rastler, D. (86) 34)
- Mass transfer**
 SOFC; Power density (Winkler, W. (86) 449)
- MCFC stack**
 MCFC system; Endurance; Lifetime; Cost-of-electricity; 40,000 h
 (Huijsmans, J.P.P. (86) 117)
- MCFC system**
 MCFC stack; Endurance; Lifetime; Cost-of-electricity; 40,000 h
 (Huijsmans, J.P.P. (86) 117)
- Membrane–electrode assemblies**
 Polymer membrane fuel cell; Dry layer preparation (Gülvzow, E. (86) 352)
- Metal membrane**
 Fuel processor; Methanol; Reformer; Fuel cell vehicle (Han, J. (86) 223)
- Methanation**
 Hydrogen production; Gas purification; Simulation of fuel cell systems; Absorption of carbon dioxide (Ledjeff-Hey, K. (86) 556)
- Methane**
 SOFCs; Internal reforming; Anode; Natural gas (Finnerty, C.M. (86) 390)
 Carbon dioxide; Landfill gas (Staniforth, J. (86) 401)
 SOFCs; Reforming; Ceria; Anode; Fuel (Livermore, S.J.A. (86) 411)
- Methanol**
 Fuel cell; CARB; Zero-emission vehicle; Hydrogen (Lloyd, A.C. (86) 57)
 Fuel processor; Reformer; Metal membrane; Fuel cell vehicle (Han, J. (86) 223)
 Polarisation; Efficiency; Catalysis; Adsorption (Verma, L.K. (86) 464)
 Hydrogen; Safety; Economics; Efficiency; Emissions (Adamson, K.-A. (86) 548)

- Methanol crossover
Direct methanol fuel cell; Transport application; Portable power application (Ren, X. (86) 111)
- Methanol oxidation
Electrooxidation; Pt–Ru catalyst (Lee, C.H. (86) 478)
- Methanol supply
SPFC; Fuel cell; Fuel infrastructure; Fuel cost (Hart, D. (86) 542)
- Micro-hybrid vehicle
Micro-SOFC; Combined heat and power; Leisure application (Tompsett, G.A. (86) 376)
- Micro-SOFC
Combined heat and power; Leisure application; Micro-hybrid vehicle (Tompsett, G.A. (86) 376)
Pre-reformer; Combustion; Catalyst; Butane (Finnerty, C. (86) 459)
- Microstructure
Ni–SDC anode; Reduced operation temperature; SOFCs (Ohara, S. (86) 455)
- Mixed potential
DMFC; Fuel cell; Modelling (Dohle, H. (86) 469)
- Modeling
Solid oxide fuel cell; Anode-supported cell; Concentration polarization; Diffusion of gases (Yakabe, H. (86) 423)
- Modelling
Solid oxide fuel cell; Gas turbine; Combined cycles; High efficiency (Palsson, J. (86) 442)
DMFC; Fuel cell; Mixed potential (Dohle, H. (86) 469)
Fuel cell plant; Steam reforming; Plate heat exchanger (Cunha, J. (86) 515)
- Molten carbonate
Li–Ni–Co–O oxides; Fuel cell; Cathode; Reduction mechanism (Pérez, F.J. (86) 309)
- Molten carbonate fuel cell
PAC test; Power generation test; Japan (Ishikawa, T. (86) 145)
- Molten carbonate fuel cells
Rectangular shape; Operating condition optimisation (Arato, E. (86) 302)
Commercial; Market applications (Dicks, A. (86) 316)
- Molten Carbonate Fuel Cells
New cathode structure; LiCoO₂; Solubility (Fukui, T. (86) 340)
- Molten carbonates
Nickel oxide; Fuel cell cathodes; Corrosion; Lithiation (Daza, L. (86) 329)
- Molten salt
Corrosion; Intermetallic compound; Plating (Kawabata, Y. (86) 324)
- Morphology
Carbon deposition; Fuel cell power plant; Stainless steel; FE-TEM; XPS; Catalytic metal (Sone, Y. (86) 334)
- Motorcycle
Scooter; Internal combustion engine; Hybrid engine; Electric; Fuel cell (Wang, J.H. (86) 151)
Fuel cell; Scooter; Bicycle; Electric; Battery (Colella, W.G. (86) 255)
- Nafion
Net electro-osmotic drag coefficient; Water supply; Hanwha membrane; PEMFC; Water transport (Choi, K.-H. (86) 197)
- Natural gas
SOFCs; Internal reforming; Anode; Methane (Finnerty, C.M. (86) 390)
- Net electro-osmotic drag coefficient
Water supply; Nafion; Hanwha membrane; PEMFC; Water transport (Choi, K.-H. (86) 197)
- New cathode structure
Molten Carbonate Fuel Cells; LiCoO₂; Solubility (Fukui, T. (86) 340)
- Nickel oxide
Molten carbonates; Fuel cell cathodes; Corrosion; Lithiation (Daza, L. (86) 329)
- Nickel/zirconia anode
Solid oxide fuel cells; Steam-reforming; Reaction kinetics (Dicks, A.L. (86) 523)
- Ni–SDC anode
Microstructure; Reduced operation temperature; SOFCs (Ohara, S. (86) 455)
- Nitrate
Citrate; Lanthanum chromite; Ceramic powder (Zupan, K. (86) 417)
- Ni–YSZ
Cermet; Solid oxide fuel cell anode; Gel-precipitation (Marinšek, M. (86) 383)
- Operating condition optimisation
Molten carbonate fuel cells; Rectangular shape (Arato, E. (86) 302)
- Oxygen carriers
Electrolyte emulsions; Oxygen cathodes; Fuel cells; Batteries (Kronberger, H. (86) 562)
- Oxygen cathodes
Electrolyte emulsions; Oxygen carriers; Fuel cells; Batteries (Kronberger, H. (86) 562)
- PAC test
Molten carbonate fuel cell; Power generation test; Japan (Ishikawa, T. (86) 145)
- PAFC power plant
Track record; Reliability; Durability (Kasahara, K. (86) 298)
- Partnership for a New Generation of Vehicles (PNGV)
US Department of Energy (DOE); Polymer electrolyte membrane (PEM) fuel cells; Fuel cell stack; Fuel processing (Chalk, S.G. (86) 40)
- Passivation
Solid polymer fuel cells; Bipolar plates; Stainless steel; Corrosion (Davies, D.P. (86) 237)
- Peak load energy storage
Compact methanol reformer; Catalytic burner; Fuel cell drive system; PEM fuel cell; Full fuel cycle (Emonts, B. (86) 228)
- PEFC power trains
Process simulation (Höhlein, B. (86) 243)
- PEM
Solid oxide fuel cell; Internal reforming; Hybrid (Dicks, A.L. (86) 501)
- PEMFC
Net electro-osmotic drag coefficient; Water supply; Nafion; Hanwha membrane; Water transport (Choi, K.-H. (86) 197)
- PEM fuel cell
Electrochemical model (Mann, R.F. (86) 173)
Compact methanol reformer; Catalytic burner; Peak load energy storage; Fuel cell drive system; Full fuel cycle (Emonts, B. (86) 228)
- PEM fuel cells
Water flooding; Cathode catalyst layer (Baschuk, J.J. (86) 181)
- Perovskite
Lanthanum manganite; SOFC; Coprecipitation method; Sintering characteristics (Mori, M. (86) 395)
- Phosphoric acid fuel cell
Absorptive refrigerator; Heat recovery; Cogeneration (Ishizawa, M. (86) 294)
- Phosphoric acid fuel cell performance
Gas flow rate; Gas starvation (Song, R.-H. (86) 289)
- Plant simulation
Solid-oxide fuel cell; Tubular fuel cell; Combined cycle; Carbon dioxide removal (Riensche, E. (86) 404)
- Plate heat exchanger
Modelling; Fuel cell plant; Steam reforming (Cunha, J. (86) 515)
- Plating
Molten salt; Corrosion; Intermetallic compound (Kawabata, Y. (86) 324)

Polarisation

Methanol; Efficiency; Catalysis; Adsorption (Verma, L.K. (86) 464)

Polymer electrolyte fuel cell

Stationary application; Berlin (Pokojski, M. (86) 140)

Polymer electrolyte fuel cell

Carbon black; Gas diffusion; Porosity (Jordan, L.R. (86) 250)

CO poisoning; Anode (Isono, T. (86) 269)

Polymer electrolyte membrane fuel cells

Gas flow distribution; Computational fluid dynamics; Grooved plate;

Porous materials (Hontañón, E. (86) 363)

Polymer electrolyte membrane (PEM) fuel cells

US Department of Energy (DOE); Partnership for a New Generation of Vehicles (PNGV); Fuel cell stack; Fuel processing (Chalk, S.G. (86) 40)

Polymer membrane fuel cell

Membrane-electrode assemblies; Dry layer preparation (Güllzow, E. (86) 352)

Porosity

Polymer electrolyte fuel cell; Carbon black; Gas diffusion (Jordan, L.R. (86) 250)

Porous materials

Polymer electrolyte membrane fuel cells; Gas flow distribution; Computational fluid dynamics; Grooved plate (Hontañón, E. (86) 363)

Portable power application

Direct methanol fuel cell; Transport application; Methanol crossover (Ren, X. (86) 111)

Power

Fuel cell; Energy storage (Smith, W. (86) 74)

Power density

SOFC; Mass transfer (Winkler, W. (86) 449)

Power generation test

Molten carbonate fuel cell; PAC test; Japan (Ishikawa, T. (86) 145)

Power plant

Fuel cell; IFC (King, J.M. (86) 16)

Power Systems Simulation

Solid oxide fuel cells; Dynamic modelling; Systems integration (Padullés, J. (86) 495)

Pre-reformer

Steam reforming; Anode gas recycling; Solid oxide fuel cells (Peters, R. (86) 432)

Micro-SOFC; Combustion; Catalyst; Butane (Finnerty, C. (86) 459)

Process simulation

PEFC power trains (Höhlein, B. (86) 243)

Propane reformer

Autothermal reforming; Compact system; Decentralised power generation (Rampe, T. (86) 536)

Propulsion

TES project; Fuel infrastructure (Heuer, W. (86) 158)

Pt–Ru catalyst

Electrooxidation; Methanol oxidation (Lee, C.H. (86) 478)

Reaction kinetics

Solid oxide fuel cells; Nickel/zirconia anode; Steam-reforming (Dicks, A.L. (86) 523)

Rectangular shape

Molten carbonate fuel cells; Operating condition optimisation (Arato, E. (86) 302)

Reduced operation temperature

Ni–SDC anode; Microstructure; SOFCs (Ohara, S. (86) 455)

Reduced temperature

Solid oxide fuel cell; SOFC; La_{(Sr)CoO_{3-δ}} cathode; Spray pyrolysis; Life time (Inagaki, T. (86) 347)

Reduction mechanism

Li–Ni–Co–O oxides; Molten carbonate; Fuel cell; Cathode (Pérez, F.J. (86) 309)

Reformer

Fuel cells; Surface ships; Submarines; All-electric ship (Sattler, G. (86) 61)

Fuel cells; Hydrogen; Syngas (Vollmar, H.-E. (86) 90)

Fuel processor; Methanol; Metal membrane; Fuel cell vehicle (Han, J. (86) 223)

Reforming

SOFCS; Ceria; Anode; Fuel; Methane (Livermore, S.J.A. (86) 411)

Reliability

PAFC power plant; Track record; Durability (Kasahara, K. (86) 298)

Renewable energy

Sustainability; Fuel cell; Future energy conversion (Hart, D. (86) 23)

Residential

Fuel cell; Forecast; Market (Sammes, N.M. (86) 98)

Road vehicle

Fuel cell; Bus (Charnah, R.M. (86) 130)

Rolls-Royce

SOFCC; Fuel cells (Gardner, F.J. (86) 122)

Ru-modification

Impinging jet; Flow cell; Fuel cell catalyst; CO-tolerance (Koponen, U. (86) 261)

Safety

Hydrogen; Methanol; Economics; Efficiency; Emissions (Adamson, K.-A. (86) 548)

Scooter

Motorcycle; Internal combustion engine; Hybrid engine; Electric; Fuel cell (Wang, J.H. (86) 151)

Fuel cell vehicles; System modeling (Lin, B. (86) 202)

Fuel cell; Motorcycle; Bicycle; Electric; Battery (Colella, W.G. (86) 255)

Simulation of fuel cell systems

Hydrogen production; Gas purification; Absorption of carbon dioxide; Methanation (Ledjeff-Hey, K. (86) 556)

Sintering characteristics

Lanthanum manganite; SOFC; Coprecipitation method; Perovskite (Mori, M. (86) 395)

SOFC

Rolls-Royce; Fuel cells (Gardner, F.J. (86) 122)

Fuel cells; Solid oxide fuel cells; Tubular SOFC (George, R.A. (86) 134)

Solid oxide fuel cell; Reduced temperature; La_{(Sr)CoO_{3-δ}} cathode; Spray pyrolysis; Life time (Inagaki, T. (86) 347)

Lanthanum manganite; Coprecipitation method; Sintering characteristics; Perovskite (Mori, M. (86) 395)

Mass transfer; Power density (Winkler, W. (86) 449)

SOFCs

Internal reforming; Anode; Methane; Natural gas (Finnerty, C.M. (86) 390)

Reforming; Ceria; Anode; Fuel; Methane (Livermore, S.J.A. (86) 411)

Ni–SDC anode; Microstructure; Reduced operation temperature (Ohara, S. (86) 455)

Solid oxide fuel cell

SOFCC; Reduced temperature; La_{(Sr)CoO_{3-δ}} cathode; Spray pyrolysis; Life time (Inagaki, T. (86) 347)

System modelling; Tubular (Boersma, R.J. (86) 369)

Solid-oxide fuel cell

Tubular fuel cell; Combined cycle; Carbon dioxide removal; Plant simulation (Riensche, E. (86) 404)

Solid oxide fuel cell

Anode-supported cell; Concentration polarization; Modeling; Diffusion of gases (Yakabe, H. (86) 423)

Gas turbine; Combined cycles; Modelling; High efficiency (Palsson, J. (86) 442)

Internal reforming; PEM; Hybrid (Dicks, A.L. (86) 501)

- Solid oxide fuel cell anode
Ni–YSZ; Cermet; Gel-precipitation (Marinšek, M. (86) 383)
- Solid oxide fuel cells
Distributed generation; Electric generation systems (Godfrey, B. (86) 68)
SOFC; Fuel cells; Tubular SOFC (George, R.A. (86) 134)
Steam reforming; Pre-reformer; Anode gas recycling (Peters, R. (86) 432)
Power Systems Simulation; Dynamic modelling; Systems integration (Padullés, J. (86) 495)
Nickel/zirconia anode; Steam-reforming; Reaction kinetics (Dicks, A.L. (86) 523)
- Solid Polymer Fuel Cell
Bipolar plate (Makkus, R.C. (86) 274)
- Solid polymer fuel cells
Bipolar plates; Stainless steel; Passivation; Corrosion (Davies, D.P. (86) 237)
- Solubility
Molten Carbonate Fuel Cells; New cathode structure; LiCoO₂ (Fukui, T. (86) 340)
- SPFC
Fuel cell; Methanol supply; Fuel infrastructure; Fuel cost (Hart, D. (86) 542)
- Spray pyrolysis
Solid oxide fuel cell; SOFC; Reduced temperature; La(Sr)CoO_{3-δ} cathode; Life time (Inagaki, T. (86) 347)
- Stainless steel
Solid polymer fuel cells; Bipolar plates; Passivation; Corrosion (Davies, D.P. (86) 237)
Carbon deposition; Fuel cell power plant; FE-TEM; XPS; Morphology; Catalytic metal (Sone, Y. (86) 334)
- Stationary application
Polymer electrolyte fuel cell; Berlin (Pokojski, M. (86) 140)
- Steam–iron process
Hydrogen; Water cleavage (Hacker, V. (86) 531)
- Steam reforming
Pre-reformer; Anode gas recycling; Solid oxide fuel cells (Peters, R. (86) 432)
Modelling; Fuel cell plant; Plate heat exchanger (Cunha, J. (86) 515)
- Steam-reforming
Solid oxide fuel cells; Nickel/zirconia anode; Reaction kinetics (Dicks, A.L. (86) 523)
- Submarines
Fuel cells; Surface ships; All-electric ship; Reformer (Sattler, G. (86) 61)
- Surface ships
Fuel cells; Submarines; All-electric ship; Reformer (Sattler, G. (86) 61)
- Sustainability
Fuel cell; Future energy conversion; Renewable energy (Hart, D. (86) 23)
- Syngas
Fuel cells; Hydrogen; Reformer (Vollmar, H.-E. (86) 90)
- System modeling
Scooter; Fuel cell vehicles (Lin, B. (86) 202)
- System modelling
Solid oxide fuel cell; Tubular (Boersma, R.J. (86) 369)
- Systems integration
Solid oxide fuel cells; Power Systems Simulation; Dynamic modelling (Padullés, J. (86) 495)
- TES project
Fuel infrastructure; Propulsion (Heuer, W. (86) 158)
- Thermal cracking of propane
Hydrogen; Catalytic cracking of propane PEFC; Bipolar plates; Carbon-polymer; Composite materials (Ledjeff-Hey, K. (86) 166)
- Track record
PAFC power plant; Reliability; Durability (Kasahara, K. (86) 298)
- Transport application
Direct methanol fuel cell; Portable power application; Methanol crossover (Ren, X. (86) 111)
- Tubular
Solid oxide fuel cell; System modelling (Boersma, R.J. (86) 369)
- Tubular fuel cell
Solid-oxide fuel cell; Combined cycle; Carbon dioxide removal; Plant simulation (Riensche, E. (86) 404)
- Tubular SOFC
SOFC; Fuel cells; Solid oxide fuel cells (George, R.A. (86) 134)
- US Department of Energy (DOE)
Partnership for a New Generation of Vehicles (PNGV); Polymer electrolyte membrane (PEM) fuel cells; Fuel cell stack; Fuel processing (Chalk, S.G. (86) 40)
- Water cleavage
Hydrogen; Steam–iron process (Hacker, V. (86) 531)
- Water flooding
PEM fuel cells; Cathode catalyst layer (Baschuk, J.J. (86) 181)
- Water supply
Net electro-osmotic drag coefficient; Nafion; Hanwha membrane; PEMFC; Water transport (Choi, K.-H. (86) 197)
- Water transport
Net electro-osmotic drag coefficient; Water supply; Nafion; Hanwha membrane; PEMFC (Choi, K.-H. (86) 197)
- XPS
Carbon deposition; Fuel cell power plant; Stainless steel; FE-TEM; Morphology; Catalytic metal (Sone, Y. (86) 334)
- Zero-emission vehicle
Fuel cell; CARB; Hydrogen; Methanol (Lloyd, A.C. (86) 57)