

ENGINEERING AND MATERIAL SCIENCES

File No.	Title
R-7810	Single Crystal Metal Oxide Nanowires
R-7804	Compact Modular Wheelchair Lift
R-7800	Selective Permeable Polymer Membrane for Gases
R-7799	An Electronic Device for the Early Detection of Dental Caries Detection
R-7797	Multi-table CT or MR Scanner (CT or MR SwingLab)
R-7793	Nanocomposite Coating Containing Carbon Nanotubes for High Flux Ultrafiltration Membranes
R-7791	Method and Apparatus for Robust and Accurate Autofocusing
R-7785	Field-Directed Interface Electrophoresis
R-7782	Self-Extinguishing Elvax/organoclay Nanocomposites
R-7774	“Walk-Assist” Method and Devices
R-7770	Tunable Planar Nanopore Device
R-7765	Novel Synthesis of Polymer Encapsulated Nano Metals
R-7764	Perfect Scan
R-7762	Semiconductor Laser Source with Electrically Tunable Emission Wavelength
R-7749	The Method and the Article for Cross-Talk Cancellation
R-7747	Distributed Interface for Hybrid Integrated Circuits
R-7723	Selective Metallic Tube Reactivity in the Solution-Phase Osmylation of Single-Walled Carbon Nanotubes
R-7721	Large-scale Synthesis of Perovskite Nanostructures
R-7717	Ad Hoc Network Routing for Hotspot Mitigation and Load Balancing in Wireless LANS

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File No.	Title	
R-7712	Flame-retardant PMMA Nanocomposites	
R-7709	Nanocrystalline Thermophotovoltaic Heat Flux Sensor Coating Laser Ablation	Deposited by
R-7691	Imaging Tandem Mass Spectrometer	
R-7690	Turbo-Cooling Principle of Internal-Combustion Engines	
R-7688	Self-Converting, MOD (Molybdate-On-Demand) Powder Coatings	
R-7665	Low Density, Low Dielectric, Metalizable Polymer Films	
R-7661	Self-Aligning Waveguide Sensor	
R-7660	Gun-Fired Sensor Platforms	
R-7656	Ford Global Technologies, Inc. (Donation)	
R-7650	Thermal Mix Spray Coating	
R-7645	Electronic Nose Based on Selective Resistive Sensors	
R-7639	Thermal Mix Spray Alloying	
R-7636	Distributed Scheduling of Nonlinear Computational Loads	
R-7629	Flame-Retardant Elvacite® Acrylic Resin Nanocomposites	
R-7621	Method and Apparatus for Complete 3D reconstruction by Matching Base Tangent Plane of One Pose Model to a Stable Tangent Plane of Another Pose Model	
R-7620	Method and Apparatus for Photorealistic 3D Model Reconstruction Using the Albedo Correspondence Technique	
R-7616	Quantum Cascade Laser With Widely Tunable Emission	
R-7581	Viscometry of Thin Films	
R-7580	Highly Linear Operational Transconductance Amplifier	

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File No.	Title
R-7579	Active Spatial filtering for Cell Matching Improvement
R-7574	Fiber-Optic Sensor for Measuring Level of Fluid
R-7573	Enhancing NFS Cross-Administrative Domain Access Spadavecchia
R-7567	Optical Fiber Raceways Junctions
R-7566	Easy to Install and Dismount Optical Fiber Raceways
R-7562	Capillary Waveguide Fluorescence Sensor
R-7559	Novel Design of Mid-Infrared Lasers Based on a Gal
R-7557	Ammonia Sensor
R-7546	Controlling Polymer Adhesion Using Filler Particles
R-7542	Survivable Call Boxes
R-7533	Flame Retardant and UV Absorptive PMMA Nanocomposites
R-7524	Charge Injection Transistor in Silicon
R-7510	Infrared Radiation Imager with Optical Conversion, Processing And Readout
R-7505	SQUIDs Based on Processing of SFQ Pulses
R-7490	Direct Write Thermal Spraying of Multilayer Electronics and Sensor Structures
R-7489	Microstructural Engineering and Processing for TBCs
R-7488	A Multifunctional, High-Sensitivity, Scratch Tester
R-7481	Tailored Microstructures for Predictable Coating Properties
R-7478	Temperature Insensitive Semiconductor Laser
R-7477	A New Conference Network for Group Communication

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File No.	Title
R-7476	Fabrication Strategies for the Proposed Meta-Materials
R-7472	Li-Beating ZSM-5
R-7469	Calibration of a 3-D Surface Contouring System
R-7468	Direct Synthesis and Disposition of Luminescent Films
R7466	Scalable Distributed Computing Load Scheduler
R-7464	Investigation on a New Microporous Lithosilicate RUB-29
R-7463	Smart Anthropomorphic Contact Surface Technology (SACST)
R-7461	Multiple, Single-Unit Peripheral Neuron Sensor
R-7454	Fuel Cell with Intercooled Gas Turbine
R-7441	Method of Flip Chip Bonding for Active Packaging Utilizing Micro-Pins
R-7426	Means for Regulating Protein Adsorption onto Substrates
R-7420	Sensors with Remote, Passive Radio Frequency Read Out
R-7417	Synthesis/Characterization of Magnetic Materials and Composites
R-7397	Superconductor Low-Pass and Band-Pass Analog-to-Digital Modulator with High Sampling Rate
R-7390	New Beam Delivery Technique for High-Intensity Laser Pulses
R-7379	A Quality Assurance Test Instrument for Measuring the Accuracy and Reproducibility of Mechanical Parameters for Medical Accelerators
R-7378	Automated Radiotherapy Quality Assurance System: An Image Based Quality Assurance Phantom with Integrated Software for Automated Radiation Beam Analysis, Reporting and Data Tracking
R-7377	Automated Verification of 3D Conformal and Intensity Modulated Radiotherapy Planning and Delivery

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File No.	Title
R-7374	Novel Use of Fiber Optics in Optical Measurements and Interferometric Tomography for Flow and Thermal Systems
R-7373	Method and Apparatus to Maintain Connectivity for Mobile Terminals in Wireless and Cellular Communication Systems
R-7371	Development of a Strategy for the Preparation of a New Family of Conjugated Polymers
R-7364	An Inexpensive, Versatile and Efficient Compatibilizer for Highly Immiscible Polymer Blend Films
R-7347	Dynamic Apertures for Line-Width Control During Thermal Spray Deposition
R-7346	Fabrication of Electric Multi-layers by CNC Based Masking and Thermal Spraying
R-7345	Instrument for <i>In Situ</i> Measurement of Residual Stress (Thermal Spray Application)
R-7339	The Giant Magnetoresistance (GMR) Effect of Two-Phase Powder Mixtures
R-7327	Diamond Synthesis of High Velocity Thermal Spray
R-7310	A Thermally Sprayed Flexible Magnet with an Induced Anisotropy
R-7309	Geometric Motion Analysis for Use in Medical Diagnoses, Physical Therapy and Robotics
R-7304	Multiplexed Capillary Electrophoresis System
R-7302	Joint Source-Channel Coding Schemes for Broadcasting and Robust Communications
R-7285	Shock Synthesis of Nanocrystalline Si by Thermal Spraying
R-7277	Predictive Modeling and High Pressure-High-Temperature Synthesis of High Dielectric Constant Materials
R-7263	Low Operating-Temperature Supercharged Engines
R-7264	Load Sharing Controller Which Optimizes the Monetary Cost of Computation and Communication

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File No.	Title
R-7263	Low Operating-Temperature Supercharged Engines
R-7261	Magnetoresistive Device Using Patterned Magnetic Nanostructures
R-7257	Magnetoresistive Material with Two Metallic Magnetic Phases
R-7254	Surface Measurement Using Shadow Moire Technique with Talbot Effect
R-7253	Laser-Based, Real-Time, Non-Contact Liquid Concentration Measurement
R-7252	Non-Contact Temperature and Concentration Measurement on Liquid Surfaces
R-7250	Smart Sensors for Detection and Spectroscopy
R-7249	Fracture Resistant Functionally Graded Glass-Ceramic or Ceramic-Ceramic Coatings for Wear and Corrosion Resistant Coating Applications
R-7243	TWI-Nite Vision Systems to Facilitate Night-time Driving
R-7226	Computer-Based Semi-Automatic Focusing Setup
R-7215	Polymeric Microspheres Containing a Super- magnetic Core
R-7214	Critical Voltage Transition Logic: An Ultrafast CMOS Logic Family
R-7213	Effective Surface Treatment for a New Separation Medium in Electrophoresis
R-7211	A Means and a Method of Preparing High Current, High Frequency Silicon Semiconductor Devices
R-7205	High Damping Structural Elements
R-7192	Laser Measurement System for Fast Calibration of Machine Tools
R-7189	A Method and Apparatus for Fabricating Opto-Electronic Devices with Controlled Refractive Index Variation
R-7187	Rapid Rendering for Computer-Aided Design
R-7181	Tunnel Barriers for Faster Field-Alterable Semiconductor Memories

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File No.	Title
R-7176	A Computer-Aided Low-Harmonic Trajectory Planner for Computer-Controlled Machinery
R-7166	Oversampling Single-Flux-Quantum Counting Analog-to-Digital Converter
R-7165	Interface Between Superconductor and Semiconductor Electronic Circuits using Phase-Shift-Keying Coded Data Format
R-7152	Laser Illumination of Multicapillaries that Form a Waveguide
R-7143	Laser-Optics Automatic Train Control
R-7142	A New Separation Medium for (Capillary) Electrophoresis
R-7141	Logic Gates Based on the Single-Electron Transistor
R-7135	VolVis: A Software System for Volume Visualization with Applications in CAD, Medicine and Engineering
R-7119	A Channel Borrowing Scheme for Cellular Communication Systems Using Multiple Channel Carriers
R-7104	Bar Coding of Powder Lots to Improve Process Efficiency During Thermal Spraying
R-7103	Automated Collision Notification and Emergency Reporting (ACNER)
R-7102	Highway System and Vehicle Communication with Laser Optics
R-7101	A Laser-Controlled Automated Vehicle Operation System
R-7091	Method for Processing Layered and Gradient Structures Through Thermal Spray Forming
R-7090	Silicide Based Graded Bond Coats for High Temperature Thermal Barrier Coatings
R-7088	Thermal Spraying of Recycled and Post-Consumer Commingled Polymer Material
R-7085	Dynamical Control of Jets and Flames
R-7077	Absolute Zero-Shear Viscosity in a Centrifuge Ball Viscometer
R-7063	Intercooled Turbocharged Piston Engines

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S-7060	Graded Metal Reinforced Ceramic Free Standing Forms
S-7056	Spray Forming of Graded Polymer Composite Components
R-7048	A Device for Endorectal MR Imaging of the Prostate that Supports Simultaneous Microwave Hyperthermic Treatment
R-7043	Accelerated Ball Viscometer
R-7023	Rapid Single Flux Quantum Time Domain Multiplexer
R-7022	High Speed Digital Level Translator and Interface
R-7018	Intercooled Supercharged Gas Turbine
R-7015	A Method to Provide Priority for Call Continuation in Cellular Communication Channel Borrowing Schemes
R-7012	Quantitative Reconstruction of Single-Photon Emission Tomography
R-7008	Telerobotic (Mobile Robot) System for Cleaning/Homogenizing Crude Oil (6 oil) and Other Similar Tanks/and Their Inspection
R-7000	Method and Apparatus for Accurate 3-D Shape Measurement and Image Reconstruction Using Image Focus
R-1051	A Topological Partitioning Method for Power Systems Analysis
R-1050	Device for Non-Destructive Laser Surgery
R-1047	Superconductor Measuring Device
R-1044	Active and Adaptive Damping Panels for Shock and Noise Suppression
R-1015	One and Two Dimensional Scanning System
R-1011	Device Construction and Method to Improve Visibility of Interventional Devices During Magnetic Resonance Imaging