Three-spin solid effect and the spin diffusion barrier in amorphous solids

High Intrarenal Lactate Production Inhibits the Renal Pseudohypoxic Response to Acutely Induced Hypoxia in Diabetes

Towards precise brain stimulation
Is electric field simulation related to neuromodulation?

A D-Band Rectangular Waveguide-to-Coplanar Waveguide Transition Using Metal Ridge

Alginate Trisaccharide Binding Sites on the Surface of β-Lactoglobulin Identified by NMR Spectroscopy: Implications for Molecular Network Formation

Analysis of dDNP NMR metabolic data from cancer cells

A Robust Cryogenic RF Coil (88K) for In-vivo Hyperpolarized $^{13}$C MRI of Rats

Brain changes induced by Electroconvulsive Therapy are broadly distributed

Calibrated Coil Combination for Fixed-Geometry, Low-Frequency Coils with Application to Hyperpolarized $^{13}$C Measurements

Can Transcranial Electrical Stimulation Localize Brain Function?

Coil profile estimation strategies for parallel imaging with hyperpolarized 13C MRI

Combined Rapid Injection NMR and Simulation Approach to Probe Redox-Dependent Pathway Control in Living Cells

Compact, low-cost NMR spectrometer and probe for dissolution DNP

Correction of stray magnetic fields caused by cable currents is essential for human in-vivo brain magnetic resonance current density imaging (MRCDI)

Cryogen-free dissolution dynamic nuclear polarization polarizer operating at 3.35 T, 6.70 T, and 10.1 T

Cryogenic Single and Array Coils for Magnetic Resonance Systems

Data-driven Nyquist ghost correction for hyperpolarized 13C EPSI and EPI

Design of a local quasi-distributed tuning and matching circuit for dissolution DNP cross polarization

Discovery and Exploration of the Efficient Acyclic Dehydration of Hexoses in DMSO/Water

Dynamic Imaging of Glucose and Lactate Metabolism by C-13-MRS without Hyperpolarization
Engineering two-dimensional transition metal dichalcogenide electrocatalysts for water splitting hydrogen generation

Gadolinium Effect at High-Magnetic-Field DNP: 70% $^{13}$C Polarization of [U-$^{13}$C] Glucose Using Trityl

High-Q, tunable High Temperature Superconducting receiver coil for $^{13}$C applications

Hyperpolarized MR – What's up Doc?

Hyperpolarized $^{13}$C MRI: Path to Clinical Translation in Oncology

Improved Decoupling for Low Frequency MRI Arrays using Non-conventional Preamplifier Impedance

MR-skanning til diagnostik af nonalkoholisk fedtlevesygdom

On the SNR of Cryogenic Receive Coils when using Room Temperature Preamplifiers

Optimized microwave delivery in dDNP

Parallel imaging for hyperpolarized metabolic magnetic resonance imaging

PIN diode driver for NMR and MRI

Probing the Lewis Acid Catalyzed Acyclic Pathway of Carbohydrate Conversion in Methanol by In Situ NMR

Protocol for multi-site quantitative evaluation of $^{13}$C radio frequency coils

Real-Time Detection of Intermediates in Rhodium Catalyzed Hydrogenation of Alkynes and Alkenes by Dissolution DNP

Reversible and Vapochromic Chemisorption of Ammonia by a Copper(II) Coordination Polymer

Self-decoupled coils for MRI receiver arrays based in an external resonator

Sensitive optomechanical transduction of electric and magnetic signals to the optical domain

Structural, biosynthetic and serological cross-reactive elucidation of capsular polysaccharides from Streptococcus pneumoniae serogroup 16

System Integration and Packaging of a Terahertz Photodetector at W-Band

Targeted Metabolomics with Quantitative Dissolution Dynamic Nuclear Polarization

The stray magnetic fields in Magnetic Resonance Current Density Imaging (MRCDI)

Triple resonant electromagnetic structures for polarization transfer in DNP
Core-Shell Structure of Organic Crystalline Nanoparticles Determined by Relayed Dynamic Nuclear Polarization NMR

Cryogenic Preamplifiers for Magnetic Resonance Imaging

Radiative MRI Coil Design Using Parasitic Scatterers
MRI Yagi

3D Hyperpolarized C-13 EPI with Calibrationless Parallel Imaging

3-Fold SNR Enhancement of Small Animal 13C MRI using a Cryogenically Cooled (88 K) RF Coil

Accurate Noise Figure Measurements for Highly Mismatched Preamplifiers

A comprehensive study of cryogenic cooled millimeter-wave frequency multipliers based on GaAs Schottky-barrier varactors

Analysis of dDNP NMR metabolic data from cancer cells (- poster)

A narrow line UV-induced non-persistent radical to generate highly polarized transportable glucose solid samples

Association and Dissociation of Optimal Noise and Input Impedance for Low-Noise Amplifiers

A virtual scanner for teaching fundamental magnetic resonance in biomedical engineering

Combined Hyperpolarized $^{13}$C-pyruvate MRS and $^{18}$F-FDG PET (HyperPET) Estimates of Glycolysis in Canine Cancer Patients

dDNP as a method to assess altered cellular metabolism in vitro

Development of a Symmetric Echo-Planar Spectroscopy Imaging Framework for Hyperpolarized 13C Imaging in a Clinical PET/MR Scanner

Development of Quantitative Magnetic Resonance Imaging (qMRI) Methods for Radiotherapy Response Studies

Discovery of Intermediates of lacZ β-Galactosidase Catalyzed Hydrolysis Using dDNP NMR

Dynamic coronary MR angiography in a pig model with hyperpolarized water

Efficient Hyperpolarization of U-13 C-Glucose Using Narrow-Line UV-Generated Labile Free Radicals

Encoding of non-MR Signals in Magnetic Resonance Imaging

Gamma-aminobutyric acid edited echo-planar spectroscopic imaging (EPSI) with MEGA-sLASER at 7T

General purpose electronics for real-time processing and encoding of non-MR data in MR acquisitions
Ideal Coil Decoupling in Receive Arrays using Negative Resistance Preamplifiers


Introduction to dissolution DNP: Overview, instrumentation, and human applications

Kinetic Analysis of Hexose Conversion to Methyl Lactate by Sn Beta: Effects of Substrate Masking and of Water

Liquid-State Polarization of 30% through Photo-Induced Non-Persistent Radicals on 13C Pyruvic Acid

Liquid-State 13C Polarization of 30% through Photoinduced Nonpersistent Radicals

Low microwave attenuation and low thermal loss waveguides for dDNP probes

Low microwave attenuation and low thermal loss waveguides for dDNP probes

Molecular imaging of tumor photoimmunotherapy: Evidence of photosensitized tumor necrosis and hemodynamic changes

Multichannel Hyperpolarized 13C MRI in a Patient with Liver Metastases using Multi-slice EPI and an Alternating Projection Method for Denoising

Photogenerated Radical in Phenylglyoxylic Acid for in Vivo Hyperpolarized 13C MR with Photosensitive Metabolic Substrates

Probing cardiac metabolism by hyperpolarized 13C MR using an exclusively endogenous substrate mixture and photo-induced nonpersistent radicals

Signal to noise comparison of metabolic imaging methods on a clinical 3T MRI

Slice-wise motion tracking during simultaneous EEG-fMRI

Stable isotope-resolved analysis with quantitative dissolution dynamic nuclear polarization

Ultra-low power transmitter for encoding non-MR signals in Magnetic Resonance (MR) recordings

Versatile polarizer NMR spectrometer

A cryogenic measurement setup for characterization microwave devices

A microwave window for K band electromagnetic systems

A narrow line UV-induced non-persistent radical in view of generating highly polarized transportable glucose solid samples

Antioxidant treatment attenuates lactate production in diabetic nephropathy

Bloch simulation and MR fundamentals visualized
Characterization and flip angle calibration of 13C surface coils for hyperpolarization studies

Day 1 of MRI and NMR education: Interactive visualization of MR basics

dDNP as an emergent real time analytical method for catalytic reactions

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Detecting Elusive Intermediates in Carbohydrate Conversion: A Dynamic Ensemble of Acyclic Glucose-Catalyst Complexes

DNP NMR of carbohydrate converting enzymes

Echo Planar Spectroscopic Imaging of Hyperpolarized $^{13}$C in a Clinical System with Reduced Chemical Shift Artifacts

Effect of a treat-to-target strategy based on methotrexate and intra-articular betamethasone with or without additional cyclosporin on MRI-assessed synovitis, osteitis, tenosynovitis, bone erosion, and joint space narrowing in early rheumatoid arthritis: results from a 2-year randomized double-blind placebo-controlled trial (CIMESTRA)

Encoding of inductively measured k-space trajectories in MR raw data

Forming of space charge wave with broad frequency spectrum in helical relativistic two-stream electron beams

Fumarase activity: an in vivo and in vitro biomarker for acute kidney injury

GABA-edited echo-planar spectroscopic imaging (EPSI) with MEGA-sLASER at 7T

Gradient distortions in EEG provide motion tracking during simultaneous EEG-fMRI

Hyperpolarized $^{133}$Cs is a sensitive probe for real-time monitoring of biophysical environments

Hyperpolarized Water Perfusion in the Porcine Brain – a Pilot Study

Hyperpolarized xenon by d-DNP using the clinical GE SpinLab polarizer system

Imaging regional metabolic changes in the ischemic rat heart in vivo using hyperpolarized(1-13C)Pyruvate

Improved Decoupling for 13C coil Arrays Using Non-Conventional Matching and Preamplifier Impedance

Improved reconstruction for IDEAL spiral CSI

Low conversion loss 94 GHz and 188 GHz doublers in InP DHBT technology
Low cost, compact, two-channel NMR spectrometer for CP-DNP

Low-Noise Active Decoupling Circuit and its Application to 13C Cryogenic RF Coils at 3T

Low RF-field strength cross polarization combined with photo-induced non-persistent radicals for clinically applicable dDNP

Mary had a little Lamb: Scanner-recorded speech during MRI without gradient-induced sound

Measuring glucose cerebral metabolism in the healthy mouse using hyperpolarized C-13 magnetic resonance

Microstrip Resonator for High Field MRI with Capacitor-Segmented Strip and Ground Plane

Monitoring Cancer Response to Treatment with Hyperpolarized $^{13}$C MRS

MRI

Non-Cartesian Parallel Imaging Reconstruction of Undersampled IDEAL Spiral 13C CSI Data

Plural three-wave resonances of space charge wave harmonics in transit section of klystron-type two-stream FEL with helical electron beam

Practical Aspects of Preamplifier Designs for 13C Imaging.

Preparation of Radical-Free Hyperpolarized Water using Photo-induced non-persistent Radicals on a “SpinLab-like” dissolution-DNP Polarizer

Probing of biochemical pathways in clonal pancreatic β–cells by quantitative dDNP of metabolite extracts

Quantifying Biochemical Activities in Living Cells with $^{13}$C dDNP NMR

Renal MR angiography and perfusion in the pig using hyperpolarized water

Simultaneous imaging of hyperpolarized [1,4-13 C2]fumarate, [1-13 C]pyruvate and 18 F-FDG in a rat model of necrosis in a clinical PET/MR scanner

Towards new vistas in preamplifier design for MRI

16-Channel surface coil for 13C-hyperpolarized spectroscopic imaging of cardiac metabolism in pig heart

A novel MR contrast agent for angiography and perfusion: Hyperpolarized water

Decoupling Scheme for a Cryogenic Rx-Only RF Coil for 13C Imaging at 3T

Difference between Extra- and Intracellular T1 Values of Carboxylic Acids Affects the Quantitative Analysis of Cellular Kinetics by Hyperpolarized NMR
Dissolution Dynamic Nuclear Polarization capability study with fluid path

Educational simulator app and web page for exploring Nuclear and Compass Magnetic Resonance

Efficiency Analysis of Magnetic Field Measurement for MR Electrical Impedance Tomography (MREIT)

High-field dissolution dynamic nuclear polarization of [1-13C]pyruvic acid

HP Xenon by d-DNP using the clinical GE SPINlab polarizer system

Hyperpolarised Organic Phosphates as NMR Reporters of Compartmental pH

Hyperpolarized 13C MR angiography

Hyperpolarized $^{13}$C Urea Relaxation Mechanism Reveals Renal Changes in Diabetic Nephropathy

Imaging Renal Urea Handling in Rats at Millimeter Resolution using Hyperpolarized Magnetic Resonance Relaxometry

Interactive web site and app for early magnetic resonance education

Investigating tumor perfusion by hyperpolarized (13) C MRI with comparison to conventional gadolinium contrast-enhanced MRI and pathology in orthotopic human GBM xenografts

Correlation of 13C Perfusion Imaging and Gd-Enhanced Contrast MRI

Large dose hyperpolarized water with dissolution-DNP at high magnetic field

Large field-of-view transmission line resonator for high field MRI

Measuring Motion-Induced B0-Fluctuations in the Brain Using Field Probes

Microwave-gated dynamic nuclear polarization

Muscle growth is reduced in 15-month-old children with cerebral palsy

On the present and future of dissolution-DNP

Optimal Value of Series Capacitors for Uniform Field Distribution in Transmission Line MRI Coils

Oxygen metabolic competition in the lactic acidotic diabetic kidney: A point of no return?

Probing treatment response of glutaminolytic prostate cancer cells to natural drugs with hyperpolarized [5-13C]glutamine

Prospective motion correction for MRI using EEG-equipment

Regional brain volumes, diffusivity, and metabolite changes after electroconvulsive therapy for severe depression
Simultaneous PET/MRI with 13C magnetic resonance spectroscopic imaging (hyperPET): phantom-based evaluation of PET quantification

Single-Shot-RARE for rapid 3D hyperpolarized metabolic ex vivo tissue imaging: RF-pulse design for semi-dense spectra

Spectroscopic approaches to resolving ambiguities of hyper-polarized NMR signals from different reaction cascades

TE01 mode converter for highly overmoded circular waveguide at 188 GHz

Transmission Line Resonator Segmented with Series Capacitors

Tunable 13C/1H dual channel matching circuit for dynamic nuclear polarization system with cross-polarization

Ultrashort electromagnetic clusters formation by two-stream superheterodyne free electron lasers

Waveguide transition with vacuum window for multiband dynamic nuclear polarization systems

3D metabolic ex vivo sample imaging of hyperpolarized compounds using a 3D single-shot RARE (3D SS-RARE) sequence, combining spectral RF selectivity with under-sampled spectral encoding at signal read-out

A 282 GHz Probe for Dynamic Nuclear Polarization

A fast and simple method for calibrating the flip angle in hyperpolarized 13C MRS experiments

A setup for measuring characteristics of microwave electric vacuum devices with open resonance structures


Facing and Overcoming Sensitivity Challenges in Biomolecular NMR Spectroscopy

Improved Field Homogeneity for Transmission Line MRI Coils Using Series Capacitors

In Vivo Phenotyping of Tumor Metabolism in a Canine Cancer Patient with Simultaneous (18)F-FDG-PET and Hyperpolarized (13)C-Pyruvate Magnetic Resonance Spectroscopic Imaging (hyperfPET): Mismatch Demonstrates that FDG may not Always Reflect the Warburg Effect

Magnetic Resonance Angiography in the Pig using Hyperpolarized Water

Modeling of Schottky Barrier Diode Millimeter-Wave Multipliers at Cryogenic Temperatures

Quantified pH imaging with hyperpolarized 13C-bicarbonate

Quantified pH Imaging with Hyperpolarized Bicarbonate

Real-time cardiac metabolism assessed with hyperpolarized [1-13C]acetate in a large-animal model

Simulation and comparison of coils for Hyperpolarized 13C MRS cardiac metabolism studies in pigs
Simultaneous Hyperpolarized 13C-Pyruvate MRI and 18F-FDG PET (HyperPET) in 10 Dogs with Cancer

Simultaneous hyperpolarized 13C-pyruvate MRI and 18F-FDG-PET in cancer (hyperPET) feasibility of a new imaging concept using a clinical PET/MRI scanner

The Ups and Downs of Classical and Quantum Formulations of Magnetic Resonance

Design of a broadband passive X-band double-balanced mixer in SiGe HBT technology

Fluid path system for dissolution and transport of a hyperpolarized material

Method and apparatus to hyperpolarize materials for enhanced mr techniques

Method of producing a composition, composition and its use

Method and apparatus for producing contrast agents for magnetic resonance imaging

Method and apparatus for producing contrast agents for magnetic resonance imaging

Method and arrangement for producing contrast agent for magnetic resonance imaging

Multidimensional nmr spectroscopy of a hyperpolarized sample

Methods and devices for dissolving hyperpolarised solid material for nmr analyses

Method of magnetic resonance investigation