

DEAR COLLEAGUE,

We're excited that we will soon see many of you, and will share details about new developments in MRI and NMR from Doty Scientific. At the ENC in Orlando and at ISMRM in Paris we will introduce a novel large double-tuned birdcage coil that we believe our imaging friends will find exciting.

In this newsletter and at the ENC we present data from our H/X/Y/Z four channel MAS probes as well as a new NB 250 °C wideline probe. (WB 300 °C)

If you plan to be at the ENC, come by the Doty suite (Magnolia C) for ice cream. You can meet our newest employee Dr. Ali Sirusi - who came to us from the University of Florida in Gainesville.

IN THIS ISSUE:

Introducing: Novel, New Generation Double -Tuned CP MRI Volume Coils.

Access Sample Temperatures to 250 °C in a Narrow Bore Wideline Probe!

Doty QUAD-FAST-MAS H/X/Y/Z Probe for Quad Resonance MAS.

Introducing: A New Generation of Double-Tuned CP MRI Coils

Novel MRI Research Coils –

3 T, 4.7 T, 7 T, Up to Human Head Size:



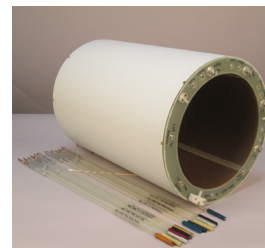
See our poster at the ENC.

Large, Segmented, Dual-frequency, Quadrature, Shielded, High Field MRI Coils With Exceptional Tuning Stability.

^1H and $^1\text{H}/\text{C}$ or $^1\text{H}/\text{Na}$ and other dual-frequency coils are available.

Easily handles large high-salinity samples.

The first of these coils is shown on the right. The 4.7 T coil has a 20 cm I.D.; a 20 cm RF rung length; and O.D. of 25 cm.



The tuning range covers sample loads from 5 mM to 350 mM salinity, and 160 mm diameter x 170 mm length.

UPCOMING CONFERENCES

59thth ENC

April 29 - May 4th 2018

Orlando, Florida – Doty Suite Magnolia C

<http://www.enc-conference.org/>

ISMRM & ESMRMB

June 16 - June 21, 2018

Paris, France – Doty Booth 400

<https://www.isrm.org/>

59th Annual Rocky Mountain Conference on Magnetic Resonance

July 22 – July 26, 2018

Snowbird, Utah – Doty Booth 3

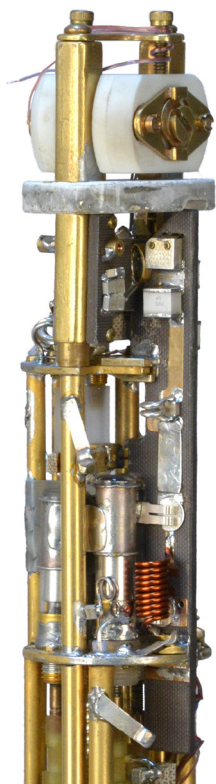
<http://www.rockychem.com/>

Access Sample Temperatures to 250 °C in a NB Wideline Probe!

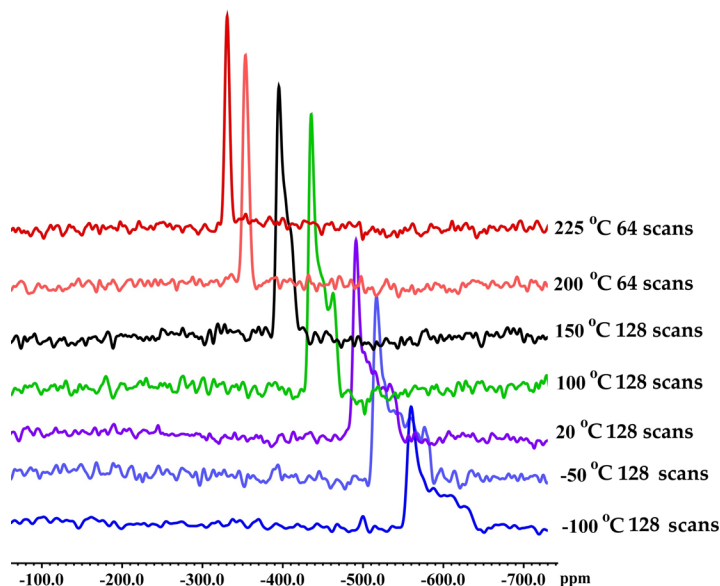
To illustrate the capability of a novel 3 mm H/X wideline narrow bore probe with extended VT range, we performed a variable temperature experiment on $\text{Pb}(\text{NO}_3)_2$ over the temperature range from -110 °C to +250 °C. Those data are summarized in figure below. Note the highest temperature reported here is 225 °C; the high temperature limit for the probe is actually 250 °C. (The wide bore range is -110 to +300 °C.)

For more information on the special construction and features of this unique probe:

<http://dotynmr.com/products/solids-nmr-probes/unique-wideline-nb-250-c-ultra-low-1h/>

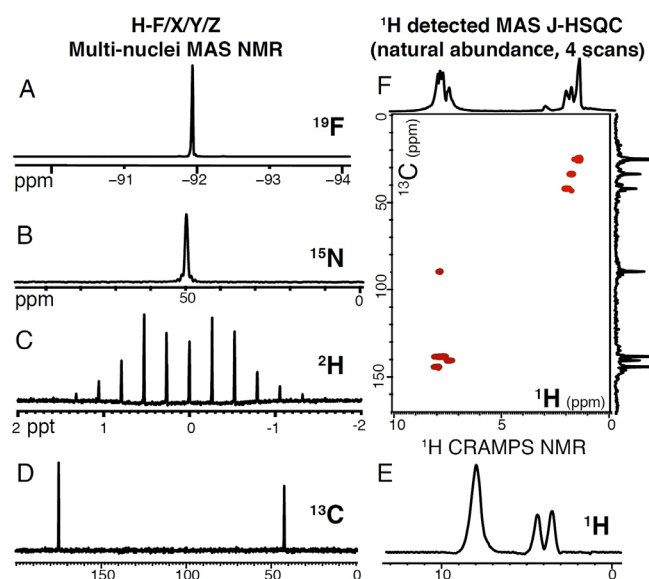


*Sample
temperature
measured by
 $^{207}\text{Pb}(\text{NO}_3)_2$
chemical shift*



Doty Quad-Fast-MAS H/X/Y/Z or H-F/X/Y/Z HR-Solids

- Four Independent, Efficient, High-Power Channels
- Solids Quad Resonance
- High resolution – 3 Hz ^1H
- Enables ^2H Decoupling with High Power
- 3 Broadband Channels X/Y/Z
- Fast-MAS 3 mm
- Extended VT range
- NB or WB, all fields



The MAS NMR data (above right) was acquired with a WB JEOL ECA 500 MHz at DSI: Most with 4 scans.

A) ^{19}F , PFCE, one scan. B) ^{15}N CPMAS, ^{15}N D-Alanine. C) ^2H D-Proline, one scan. D) ^{13}C CPMAS, Glycine. E) ^1H detected CRAMPS, Glycine. F) MAS J-HSQC, 4 scans, 5CB (natural abundance). Bibhuti Das, Doty

<http://dotynmr.com/products/quad-fast-mas-hxyz/>

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