

# ANR –FWF IMagine project

## List of publications



### Articles

1. Pöschko, M.T., Vuichoud, B., Milani, J., Bornet, A., Bechmann, M., Bodenhausen, G., Jannin, S., Müller, N., Spin Noise Detection of Nuclear Hyperpolarization at 1.2 K, [ChemPhysChem, 2015, 16, ???](#)
2. Ferrand, G., Huber, G., Luong, M., Desvaux, H., Nuclear spin noise in NMR revisited, [J. Chem. Phys., 2015, 143, 094201 \(1-10\)](#).
3. Kuzmin, V.V., Bidinosti, C.P., Hayden, M.E., Nacher, P.J., An improved shielded RF transmit coil for low-frequency NMR and MRI, [J. Magn. Reson., 2015, 256, 70-76](#).
4. Causier, A., Carret, G., Boutin, C., Berthelot, T., Berthault, P. 3D-printed system optimizing dissolution of hyperpolarized gaseous species for micro-sized NMR, [Lab Chip, 2015, 15, 2049-2054](#).
5. Ferrand, G., Luong, M., Huber, G., Desvaux, H., A more accurate tuning-matching technique for NMR probes using wobulation and variable phase shifter, [Conc. Magn. Reson. B, 2015, 45B, 59-68](#).
6. Pöschko, M. T., Schlagnitweit, J., Huber, G., Nausner, M., Hornicakova, M., Desvaux, H., Müller, N. On the tuning of high resolution NMR probes [ChemPhysChem, 2014, 15 3639-3645](#).
7. Chandra K., Schlagnitweit J., Wohlschlager C., Jerschow A., Müller N., Spin-noise detected two-dimensional Fourier transform NMR spectroscopy. [J. Phys. Chem. Lett. 2013, 3853-3856](#)
8. Bendet-Taicher E., Müller N., Jerschow A., Dependence of NMR Noise Line Shapes on Tuning, Matching, and Transmission Line Properties, [Conc. Magn. Reson. B, 2014, 44B, 1-11](#).
9. Henner, V. Desvaux, H., Belozerova, T., Marion, D. J. Y., Kharebov, P., Klots, A., Collective effects due to dipolar fields as the origin of the extremely random behavior in hyperpolarized NMR maser: A theoretical and numerical study. [J. Chem. Phys., 2013, 139, 144111](#).

### Proceedings

1. Kuzmin V.V., Safiullin K., and Nacher P.-J., Signal feedback applications in MRI, [Magn. Reson. Mater. Phy.. 26 Suppl. 1 \(2013\) 40](#). Proceeding of ESMRMB 2013 Conference.
2. Kuzmin V.V., Nacher P.-J. , Bidinosti C.P., and Hayden M.E., An improved shielded RF coil for low-frequency NMR and MRI, [Magn. Reson. Mater. Phy.. 26 Suppl. 1 \(2013\) 235](#). Proceeding of ESMRMB 2013 Conference.

### Patent

1. French patent : 'Dispositif de microfluidique amagnétique par injection de gaz', A. Causier, T. Berthelot, C. Boutin, P. Berthault

### Organization of conferences and workshop

1. 1st Austrian-French NMR Symposium 2013, Wien 19-20/09/2013. N. Müller and H. Desvaux organizers.

### Communications

1. Müller N., Pöschko M., Chandra K., Nausner M., Rodin V., Ginhör S., Desvaux H., Huber G., Bodenhausen G., Jannin S., Progress in nuclear spin noise detected spectroscopy, Euromar 2014, Zürich, July 2014.
2. Pöschko M., Schlagnitweit J., Huber G., Nausner M., Hornicakova M., Desvaux H., Müller N., Revisiting the tuning of high resolution NMR probes, in: Euromar 2014 Zürich, July 2014.
3. Müller N., Chandra K., Desvaux H., Huber G., Nausner M., Pöschko M., Smrečki V.; Increasing the efficiency of spin noise detected NMR spectroscopy, Central European NMR Meeting 29th NMR Valtice, 27.04.2014.
4. Chandra K., Schlagnitweit J., Nausner M., Wohlschlager C., Müller N., Indirect Detection Through Transverse Nuclear Spin Noise , 1st Austrian-French NMR Symposium 2013, Vienna, Sept. 2013
5. Chandra K., Schlagnitweit J., Nausner M., Wohlschlager C., Spin noise detected heteronuclear multiple quantum coherence Müller N., Euromar 2013 Magnetic Resonance Conference, Hersonissos, Greece, July, 2013
6. Chandra K., Schlagnitweit J., Nausner M., Wohlschlager C., Smrečki V., Müller N., Indirect Detection through Transverse Nuclear Spin Noise, 54th Experimental NMR Conference, Asilomar Conference Center Pacific Grove , April 14 - 19, 2013.

7. Jannin S., Pöschko M., Bornet A., Milani J., Vuichoud B., Müller N, Dissolution-DNP and spin noise: je t'aime moi non plus, 1st Austrian-French NMR Symposium, Vienna Sept. 2013.
8. Müller N., Chandra K., Nausner M., Schlagnitweit J., Smrecki V., Wohlschlager C., Spin noise NMR: Two dimensional spectra and non-linear effects, in: Euromar 2013 Magnetic Resonance Conference, Hersonissos, Greece, July, 2013.
9. Müller N., Chandra K., Schlagnitweit J., Nausner M., Smrecki V., 2D FT Spin Noise NMR, in: Central european NMR meeting Valtice, CZ, April 2013.
10. Müller N., Nuclear Spin Noise Spectroscopy, Seminar EPFL, Lausanne, CH, 13.08.2013
11. Chandra K., Jerschow A., Müller N., Schlagnitweit J., Wohlschlager C.; Spin Noise Detected Two-Dimensional Fourier Transform NMR Spectroscopy, National Magnetic Resonance Society Symposium, Tezpur University India, 03.02.2014
12. Müller N.; Recent NMR results on proteins in the oxygen evolving complex of photosystem II and novel approaches to NMR acquisition, Regensburg, DE, 09.07.2014.
13. Pöschko M., Bodenhausen G., Bornet A., Jannin S., Milani J., Müller N., Vuichoud B.; Proton spin noise from a hyperpolarized sample below 2K, COST Meeting on Spin Hyperpolarisation in NMR and MRI, Zürich, 27.06.2014.
14. Patrick Berthault 'Ultrafast Z-Spectroscopy for Detection of  $^{129}\text{Xe}$  NMR-Based Sensors' COST Meeting on Spin Hyperpolarisation in NMR and MRI, Zürich 27-29/06/2014
15. Gaspard Huber 'Developments in parahydrogen induced polarization ' 1st Austrian-French NMR Symposium 2013', Wien 19-20/09/2013
16. Patrick Berthault 'Hyperpolarized xenon as a probe of biological events ' 1st Austrian-French NMR Symposium 2013', Wien 19-20/09/2013
17. Patrick Berthault 'Hyperpolarized xenon NMR in life sciences', Conference at the Portuguese NMR Network, Lisbon 16/12/2013
18. Patrick Berthault, 'Hyperpolarized  $^{129}\text{Xe}$  NMR-based sensors of biological events ' EUROMAR 2013, Hersonissos, Crete, 30/06–05/07/2013
19. V.V. Kuzmin, G. Tastevin, P.–J. Nacher, 'Imaging of magnetisation patterns in polarised liquid He appearing during precession instabilities and multiple maser emissions' Oral communication. COST meeting on Spin Hyperpolarisation in NMR and MRI, Hersonissos Crete, June 2013
20. G. Tastevin and P.–J. Nacher, 'Optical pumping in high magnetic fields, and the IMAGINE project', Oral communication. COST meeting on Spin Hyperpolarisation in NMR and MRI, Hersonissos Crete, June 2013
21. V.V. Kuzmin and P.–J. Nacher, 'Signal feedback in NMR and MRI: controlling radiation damping, detection bandwidth, or rf decoupling in coil array' Oral communication. COST meeting on Spin Hyperpolarisation in NMR and MRI, Hersonissos Crete, June 2013.
22. V.V. Kuzmin and P.–J. Nacher, Applications of signal feedback in NMR and MRI, poster. EUROMAR 2013, Hersonissos, Crete, 30/06–05/07/2013
23. V.V. Kuzmin, M. Hayden, G. Tastevin, P.–J. Nacher „Growing complex patterns in highly magnetised liquids,“ poster EUROMAR 2013, Hersonissos, Crete, 30/06–05/07/2013
24. V.V. Kuzmin, J. Orkisz, G. Tastevin, P.–J. Nacher, „Noise-triggered NMR maser bursts in HP liquid helium 3“, Oral communication, COST Meeting on Spin Hyperpolarisation in NMR and MRI, Zürich (Switzerland), 27 June 2014
25. C.P. Bidinosti, G. Tastevin, P.J. Nacher, "Tests of RF phase encoding in low-field MRI.", Oral communication, EUROHyperPOL meeting - International workshop on Spin Hyperpolarisation in NMR and MRI – Zürich, (Switzerland), 27-29 June 2014).
26. H. Desvaux 'Détection Optique de la Résonance Magnétique', GERM 2014, Biarritz 01-06/06/2014
27. P. Berthault 'RMN et IRM du xénon hyperpolarisé pour l'étude de processus biologiques' Conference at CBM Orléans, 03/04/2014
28. PiNG14:
29. V.V. Kuzmin, D. Moinard, P.J. Nacher, T.M. Salikhov, G. Tastevin, "Spontaneous NMR precession in hyperpolarised  $^3\text{He}$ ", Oral communication, PiNG14 (Polarisation in Noble Gases) – Les Houches (France), 29 sept.-3 October 2014.
30. C.P. Bidinosti, P.J. Nacher, G. Tastevin, "Exploration of TRASE MRI at low field with hyperpolarized  $^3\text{He}$ ", Oral communication PiNG14 (Polarisation in Noble Gases) – Les Houches (France), 29 sept.-3 October 2014
31. C.P. Bidinosti, G. Tastevin, P.J. Nacher, "Achieving accurate tip angles in NMR at low magnetic field", Oral communication, PiNG14 (Polarisation in Noble Gases) – Les Houches (France), 29 sept.-3 October 2014