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Towards photo-CIDNP MAS NMR as a generally applicable enhancement method

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List of publications

- Smitha Surendran Thamarath, A. Alia, Esha Roy, Karthick Babu Sai Sankar Gupta, John Golbeck, Jörg Matysik. "The field-dependence of the solid-state photo-CIDNP effect in two states of heliobacterial reaction centers". *Photosyn. Res.*, in press.
- Xiaojie Wang, Smitha Surendran Thamarath, Jörg Matysik. "Magnetic-field dependence of the solid-state photo-CIDNP effect observed in phototropin LOV-C57S". *Acta Chim. Sinica* 71, 169-172 (2013).
- Bela E. Bode, Smitha Surendran-Thamarath, Karthick Babu Sai Sankar Gupta, A. Alia, Gunnar Jeschke, Jörg Matysik. "The solid-state photo-CIDNP effect and its analytical application". In: *Hyperpolarization methods in NMR spectroscopy* (Lars Kuhn, ed.) Springer, pp. 105-121 (2013).
- Smitha Surendran Thamarath, A. Alia, Eugenio Daviso, Deni Mance, John H. Golbeck, Jörg Matysik (2012) Whole-cell NMR characterization of two photochemically active states of the photosynthetic reaction center in heliobacteria. *Biochemistry* 51 (29): 5763–5773.
- Smitha Surendran Thamarath, Bela E. Bode, Shipra Prakash, Karthick Babu Sai Sankar Gupta, A. Alia, Gunnar Jeschke, and Jörg Matysik (2012) Electron spin density distribution in the special pair triplet of *Rhodobacter sphaeroides* R26 revealed by magnetic field dependence of the solid-state photo-CIDNP Effect. *J. Am. Chem. Soc.* 134: 5921–5930.
- Smitha Surendran Thamarath, Joachim Heberle, P. J. Hore, Tilman Kottke, and Jörg Matysik (2010) Solid-state photo-CIDNP effect observed in phototropin LOV1-C57S by ^{13}C magic-angle spinning NMR spectroscopy. *J. Am. Chem. Soc.* 132: 15542–15543.
- Sreeja, T. S. Smitha, Deepak Nand, T. G. Ajithkumar and P. A. Joy (2008) Size dependent coordination behavior and cation distribution in MgAl_2O_4 nanoparticles from ^{27}Al solid state NMR studies. *J. Phys. Chem. C* 112: 14737–14744.

Curriculum Vitae

Following the completion of my schooling in 2001, I joined Sree Kerala Varma College, Thrissur, to pursue my bachelor's degree in Chemistry. I graduated in 2004 and undertook my master's studies in Applied Chemistry at the Department of Chemistry, Calicut University, Kerala. As part of my postgraduate study, I undertook a short term project titled "Solid state NMR studies of MgAl_2O_4 nanoparticles" under the supervision of Dr. T. G. Ajithkumar at National Chemical Laboratory (NCL), Pune. On securing my master's degree in October 2006, I worked as project assistant in the solid state NMR group of the NCL, Pune during which time I continued to work on my Masters project which saw completion in March 2008. In April 2008, I started my PhD under the supervision of Dr. J. Matysik in the Solid state NMR group of Prof. H. J. M. de Groot at the University of Leiden. As a part of my doctoral studies, I attended the Summer school "Advanced course in Solid state NMR" in 2008 at Denmark. I also had the opportunity of presenting my work in the form of posters at the Euromar Conference 'Magnetic Resonance for the Future' at St. Petersburg in 2008, the 43rd Meeting of the Dutch NMR-Discussion group at Eindhoven in 2008, the NWO meeting 'Spectroscopy and Theory' at Lunteren in 2009, the 6th Alpine Conference on Solid State NMR at Chamonix, France, in 2009, the 44th meeting of the Dutch NMR-DG in Leiden in 2009, the NWO meeting 'Spectroscopy and Theory' at Veldhoven in 2010, the Discussion Meeting and the Joint Benelux/German MR Conference at Münster in 2010, the Spin Chemistry Meeting at Noordwijk in 2011, the Reedijk Symposium in Leiden in 2011 and the Physics@FOM at Veldhoven in 2012. I finally presented my work at the workshop 'Hot Topics in Spin-Hyperpolarization' in Leiden, The Netherlands, in 2012.

