

WEBINAR SERIES ON

NMR RELAXOMETRY THEORY AND APPLICATIONS

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PROF.
PEDRO SEBASTIAO
UNIVERSITY OF LISBON, PORTUGAL

**NMR relaxometry in complex systems
and multidimensional model fitting.**

Title

P. Sebastião

University of Lisbon, Portugal

NMR relaxometry in complex systems and multidimensional model fitting

Abstract

NMR relaxometry data analysis is presented in the context of a study of a few complex molecular systems like those presenting nematic and smectic liquid crystal phases, confined liquid crystals, and magnetic ionic liquids. The examples include different molecular structures, local molecular organization levels, phase structures, and spin interactions. The multidimensional character of the model fitting procedures required to make possible to obtain a detailed insight of the molecular dynamics in those systems is described in relation to the use of an open access web fitting platform.

Author Biography

Pedro Sebastião is an Associate Professor with the Physics Department of Instituto Superior Técnico, Universidade de Lisboa. He initiated his research work 1988, in Lisbon, with Prof. António Ribeiro and during his PhD he started collaborations with Prof. F. Noack in Stuttgart, Germany, and Prof. M. Vilfan in Ljubljana, Slovenia. He has an extended expertise in the dynamics and NMR spin relaxation phenomena in soft matter systems, including liquid crystals, dendrimers, polymers, elastomers, magnetic and non-magnetic ionic liquids and liquids confined in nano-scale pores. In collaboration with the Electrical Engineering and Computers Department of IST, he has been involved in the development of new compact low power fast field-cycling NMR relaxometers. Pedro Sebastião has been developing the fitteia.org and NMRDpedia.org websites that provides software tools and information for NMR relaxometry data analysis.