

0.2 - 0.75 T variable field NMR spectrometer (VARNMR)

<https://search.labfacilities.wur.nl/SearchDetail.aspx?deviceid=845f5286-7ab3-4a55-9505-23e0ad52316f>

Brand

Maran

Type



Contact

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Organisation

Agrotechnology and Food Sciences

Description

Resonance Instruments Maran Ultra

Technical Details

VARNMR is used to study the water status in a wide variety of (bio)porous materials, for example intact plants, plant components (i.e. fruits, seeds, leaves, roots), soils, and foods. In these systems water functions as an internal probe. Water status is characterized by relaxation times, exchange and magnetization transfer rates, and diffusion coefficients. Hindered and restricted diffusion can be used to learn more about the porous structure the water experiences. These type of experiments form a very versatile toolbox, which can be combined in all kind of 2D-experiments.

Applications

This same type measurements can also be done in field experiments using highly portable setups based on the NMR MOUSE® and NMR-CUFF.

Complementary Techniques

This equipment is part of Wageningen Nuclear Magnetic Resonance Centre (WNMRC). WNMRC is a rare and unique NMR facility. It offers user access to various NMR, MRI and ESR spectrometers (ranging from low to high magnetic fields, including imaging, solid state (MAS) and liquid state NMR), with applications ranging from molecular, cells and organisms suspensions to complex foods and intact plant level.
<http://www.wageningenur.nl/en/Expertise-Services/Facilities/Wageningen-NMR-Centre.htm>