Large Sample Volume MAS NMR Probe for In Situ Investigations with Constant Flow of Reactants

Battelle Number(s): 30015
Patent(s) Issued
Available for licensing in all fields

SUMMARY

Magic Angle Spinning (MAS) is the only nuclear magnetic resonance (NMR) technique that allows a high resolution NMR spectrum to be acquired on solids, semi-solids, or mixtures of these materials. Thus, MAS NMR is an attractive tool for in situ investigations of reaction dynamics and intermediates related to such materials, including studies of active sites in a heterogeneous catalytic reaction.

A number of in situ MAS NMR techniques have been developed. However, previous techniques have only allowed for in situ studies of small sample volumes. The flow-through design of the probe improves the diffusion of the reactants and products. This allows in situ studies to be performed on samples large enough that constant flow MAS NMR can be performed at natural abundance.

PATENTS & INTELLECTUAL PROPERTY

9,194,920

TECHNOLOGY PORTFOLIO(S)

Analytical Instruments

http://availabletechnologies.pnnl.gov/technology.asp?id=335
POTENTIAL INDUSTRY APPLICATION(S)

- Computers & Electronics
- Healthcare, Pharma, Biotech & Medical

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