

## Technologieangebot /Technology offer

### Referenz /Reference

2010-04E04

### Beschreibung/Description

Cooperative (COOP) pulses can be designed to compensate each other's imperfections. In multi-scan experiments, COOP pulses can cancel undesired signal contributions complementing and generalizing phase cycles as well as difference spectroscopy. COOP pulses can also be applied at different times in a single scan. There, the performance demands compared to conventional approaches are significantly reduced for COOP-pulses. Therefore shorter and more efficient pulse sequences can be provided using the COOP approach.

### Vorteile/Advantages

- Low cost, through shorter puls and spectral quality
- Quick access to versatile intermediates

### Kundennutzen/Customer benefits

Gain in experimental time and spectral quality. Possible replacement of existing spectroscopy and imaging techniques by new COOP-based sequences.

### Anwendungsgebiete/Applicability

NMR and EPR spectroscopy, magnetic resonance imaging, optical spectroscopy, microwave spectroscopy, quantum information processing.

### Mögliche zusätzliche Leistungen der Hochschule/Possible further support by TUM

Cooperation in Research and development, presentation on the topic

### TUM ForTe

TUM Forte - Office for Research and Innovation advises scientists professionally and comprehensively on issues from the national and international research and technology transfer. To market the patents and technologies, the TUM is seeking suitable industrial partner, and negotiates licensing, transmission and cooperative agreements.

### Branche(n)/ Branches

Spectroscopy, Chemical analysis, Health

### Schlüsselwörter / Key words

NMR, EPR, MRI, phase cycle

### Entwicklungsstand /State of development

„Proof of principle“

### Schutzrechte / Patent status

DE  EP  WO

### Angebot / Offer

License, Option

### Kontakt /Contact at the TUM

TUM ForTe  
Forschungsförderung & Technologietransfer  
Patent- und Lizenzbüro

Arcisstraße 2180333 München

z. H. Dr. Katharina Aulinger  
[aulinger@zv.tum.de](mailto:aulinger@zv.tum.de)