UNIVERSITY OF PANNONIA

SUBJECT DATASHEET

Semester:	2009/10/2
Subject:	NMR spectroscopy of Solids
Code:	VEMKSI4312F
Responsible department:	Institute of Materials Engineering
Responsible department code:	MKSI
Responsible lecturer:	dr. Gábor Szalontai

Educational objectives:

To disseminate the proper knowledge of theory of solid state NMR and its capacity to solve structural problems of solids. The student must be able to select the very method by which a particular problem can be addressed.

Detailed content of the subject:

Interactions among nuclei with magnetic moments and the external magnetic field "Abundant" nuclei (1H,19F, 31P): low resolution studies Detection of motions in solids "Abundant" nuclei (1H,19F, 31P): high resolution studies The CRAMPS experiment: 1H "Rare spins" (pl. 13C, 29Si, 15N, etc.): high resolution studies The MAS and CP/MAS experiments MAS and CP/MAS applications (organometallic chemistry, polymer chemistry, heterogeneous catalysis) Advanced CP/MAS experiments: “dipolar dephasing” , CPPI, TOSS I=3/2, 5/23, 7/2 etc., NMR of quadrupolar nuclei, the DOR, DAS and MQMAS experiments I=1, 2, 3 etc. NMR of quadrupolar nuclei, and their possible effect on spectra of I=1/2 nuclei Practical aspects of the CP/MAS experiment

Requirements:

Required and suggested references:

Szalontai Gábor: Szilárd minták NMR vizsgálata, Veszprém, 2003 (CD jegyzet)