



SUBJECT DATASHEET

Semester:	2009/10/2
Subject:	Spectroscopic studies
Code:	VEMKSIB144S
Responsible department:	Institute of Materials Engineering
Responsible department code:	MKSI
Responsible lecturer:	dr. Gábor Szalontai

Educational objectives:

To give introductory theoretical knowledge of the methods and draw attention to the possible applications

Detailed content of the subject:

Infrared spectroscopy Raman spectroscopy NMR spectroscopy in liquid phase Basic methods (^1H) Spectroscopy of heteronuclei (^{13}C , ^{15}N , ^{31}P , ^{29}Si ...etc.) NMR spectroscopy in solid state Basic solid state methods (MAS, CPMAS) Applications (^{13}C , ^{15}N , ^{31}P , ^{29}Si ...etc.) Spectroscopy of quadrupolar nuclei (^{27}Al , ^{17}O , etc.) The hyperfine interaction NMR of paramagnetic molecules Mössbauer spectroscopy The Mössbauer effect and its measurement ESR-spektroszkópia (electronspin-resonance) Chiroptical properties of molecules, molecular structure and optical activity Applications: structure elucidation practices

Requirements:

Required and suggested references:

Szalontai Gábor: Mágneses magrezonancis-spektroszkópia: Egy- és kétdimenziós módszerek a kémiai szerkezetkutatásban . Veszprém, 2003 (letölthető jegyzet) [http: www.solidnmr.hu](http://www.solidnmr.hu) Anyagszerkezet-vizsgálati módszerek: Optikai spektroszkópia I és II (szerk Mink János) Jegyzet 1995