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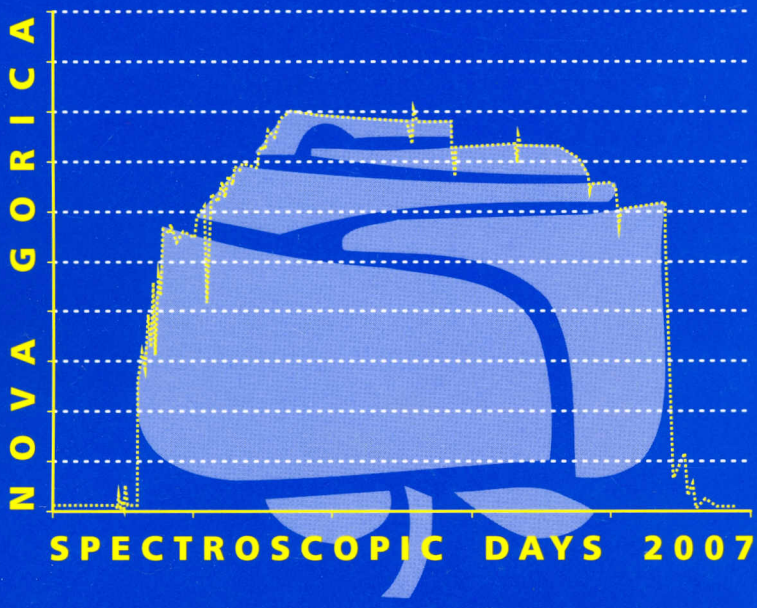

15th International Symposium

"Spectroscopy in Theory and Practice"

15. mednarodni simpozij

"Spektroskopija v teoriji in praksi"

BOOK OF ABSTRACTS / KNJIGA POVZETKOV

Nova Gorica, Slovenija, 18.-21. april, 2007

BOOK OF ABSTRACTS

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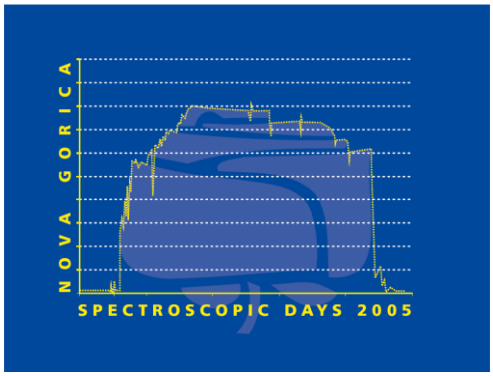

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Spectroscopic Section of
the Slovenian Chemical Society

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Slovenskega kemijskega društva

University of Nova Gorica

Univerza v Novi Gorici

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O - Oral contribution/Ustne predstavitve
P - Poster/Posterji

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ELECTRON ENERGY-LOSS SPECTROSCOPY OF PB ATOM

SPEKTROSKOPIJA IZGUBE ENERGIJE ELEKTRONOV PB ATOMA

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Presence of lead (Pb) in the human body causes toxic effects, damage to the brain function and organ systems. It has ability to inhibit the actions of calcium, it impedes vitamin D conversion into its hormonal form which is largely responsible for the cell maturation and skeletal growth. Lead also inhibits the enzymes critical to the synthesis of heme molecule, causing a decrease in blood hemoglobin. Considering these, it is very important to determine the Pb concentrations as well as its distribution in different kinds of biological tissue and various soils. Electron energy-loss spectroscopy has been used for analysing biological structures and detection of a single atom contained in the macromolecule assembly [1]. In order to experimentally investigate electron impact excitation of the 6p7s $^3P_1$ state of Pb atom, we have recorded energy-loss spectra using the electron spectrometer ESMA described earlier [2]. Here we present an energy loss spectrum of lead at impact energy of 40 eV and at scattering angle of 10^o in the energy-loss region up to 8.5 eV. The resonance structure at 4.375 eV is clearly resolved with overall system energy resolution (FWHM) of about 120 meV. Features observed in the spectrum are assigned according to Moore [3]. Other details will be presented at the conference.

1. R. D. Leapman, *J. Microsc*. **210** 5-15 (2003)
2. B. P. Marinković, V. Pejčev, D. M. Filipović, D. Šević, S. Milisavljević and B. Predojević, *Rad. Phys. Chem.* **76** 455-460 (2007)
3. C. E. Moore, *Tables of Atomic Energy Levels,* Vol.III, Washington DC: US Goverment Printing Office, 1958