

**THE FIFTH YUGOSLAV MATERIALS
RESEARCH SOCIETY CONFERENCE**

YUCOMAT 2003

**Programme
and
The Book of Abstracts**

**HERCEG NOVI,
September 15-19, 2003**

Organized by:

YUGOSLAV MATERIALS RESEARCH SOCIETY

and

INSTITUTE OF TECHNICAL SCIENCES OF THE SASA

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SPECTROPHOTOMETRY CHARACTERIZATION FULLERENE THIN FILMS

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In this paper the permeability measurements of fullerene thin film samples, 30nm, 60 nm, 100 nm i 250 nm thickness, is presented. The measurements is observed with nonillumination samples and with samples under polarized light. Light wave lengths gauge for each of the realization measurements is since 400 nm till 1000 nm. On the fixed wave length by 560 nm values ratio of s and p polarization is measured and polarization plane rotation for nonillumination and illumination samples is noticed. Measurements are observed in Laboratory for photometry and radiometry of Bureau of measures and precious metals.

P.S.B.44.

INVERSE GAS CHROMATOGRAPHY STUDY OF SYNTHETIC HYDROXYAPATITE SURFACE BY HEXANE ADSORPTION AT FINITE SURFACE COVERAGE

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The sorption of both organic and inorganic substances on synthetic hydroxyapatite (HAP) was studied intensively in the last decade, due to HAP application in diverse fields of science and technology. In this paper, HAP was synthesized by neutralisation method. The obtained powder was pure, stoichiometric HAP, with specific surface area of 21 m²/g, determined by N₂ adsorption. The chromatographic column was filled with the synthesized HAP powder and the adsorption of n-hexane was studied, at finite surface coverage. Different volumes of adsorbate were injected (1-6 μl) in the temperature range 433-463 K. Sorption isotherms were determined, using BET model. From the linear BET equation, monolayer coverages (α_m) and BET constants (C) were calculated, for each working temperature. The values of α_m were used to estimate the specific surface area. Isosteric heat of adsorption (q_{st}) was calculated and discussed, as well as the adsorption energy distribution function (χ).