

Gennady Zaikov and Marina Artsis

XXXI INTERNATIONAL VACUUM MICROBALANCE TECHNIQUES CONFERENCE

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XXXI International vacuum microbalance techniques conference was held in Izmir (Turkey) in the period of September 12-14, 2007. The conference has been organized by Izmir Institute of Technology (Faculty of Engineering, Department of Chemical Engineering, Culbance Koyu-Urla-Izmir, Turkey).

About 100 scientists from 45 research centers of universities, academic institutes and companies representing 11 countries (Turkey, Germany, Poland, Ukraine, Russia, Finland, UK, China, The Netherlands, Bulgaria, and USA) including Profs. Zulfiquir Ali (University of Teesside, Middlesbrough, UK), Devrim Balkose (Izmir Institute of Technology, Izmir, Turkey), Hassan Barkia (Ecole Normale Supérieure, Rabat, Morocco), Labri Belkbir (Université Mohammaed V, Rabat Morocco), M'barek Ben Chanaa (Université Cadi Ayyad, Marrakesh, Morocco), Grzegorz W. Chadzynski (University of Technology, Wrocław, Poland), Th. Cast (Technische Universität Berlin, Germany), S. Amarasiri A. Jayaweera (School of Science and Technology, University of Teesside, Middlesbrough, UK), Mohamed Jemal (Université de Tunis, Tunisia), Jürgen U. Keller (Universität Siegen, Siegen, Germany), Carel H. Massen (Technische Universiteit, Eindhoven, Netherlands), Johannes A. Poullis (Technische Universiteit, Eindhoven, Netherlands), Erich Robens (Johannes Gutenberg-Universität, Mainz, Germany), Piotr Staszczuk (Uniwersytet Maria Curie-Skłodowska, Lubin, PL), Valentin A. Tertykh (Ukrainian Academy of Science of Ukraine, Kiev, Ukraine) have taken part in the conference.

Prof. Devrim Balkose (Izmir Institute of Technology), Prof. Erich Robens (Institute of Inorganic and Analytical Chemistry, Johannes Gutenberg University, Mainz, Germany) and Prof. Semra Ulim (former director of Izmir Institute of Technology) have taken part in the opening ceremony of this conference.

The program of the conference has included 8 oral sessions and 2 poster sessions. Prof. Gennady E. Zaikov (Institute of Biochemical Physics, Moscow, Russia) and Prof. Gurel Nisli (Ege University, Izmir) have chaired the first session. Two lectures have been included in this session. Prof. E. Robens (co-author dr. S. Kiefer from Philipp-Matthaus-Hahn Museum, Kasten, Germany) have presented information about some intriguing items in the history of scientific balances. Report of G. W. Chadzynski

(Institute of Physics, Faculty of Fundamental Problems of Technology, Wrocław University, Wrocław, Poland) co-authored by P. Staszczuk, D. Sternik, and M. Blachnio (Department of Physicochemistry of Solid Surface, Chemical Faculty, Maria Curie-Skłodowska University, Lubin, Poland) was on studies of physico-chemical properties and fractal dimensions of selected high-temperature superconductor surfaces.

Prof. P. Staszczuk (School of Science and Technology, University of Teesside, Middlesbrough, UK) and Prof. Semra Ulku (Izmir Institute of Technology) have been the chairpersons of second session. Three lectures have been included in this session.

Prof. Valentin A. Tertykh (Institute of Surface Chemistry of National Academy of Sciences of Ukraine, Kyiv, Ukraine) has spoken about silica adsorbents with chemical specificity of surface and desired geometrical characteristics. A report by Y. Erten, A. Gunes Yerkesilikli, A. E. Cetin and F. Cakicioglu Ozkan (Izmir Institute of Technology, Department of Chemical Engineering Urla, Izmir) has covered CO₂ adsorption and dehydration behavior of LiNaX, KNaX, CaNaX and CeNaX zeolites. The last report in this session has been presented by a group of authors (D. Yalcin, O. Ozcalik, E. Altioek and O. Bayraktar, Biochemical Engineering Research Laboratory, Department of Chemical Engineering, Izmir Institute of Technology). The contributors have shared information about characterization and recovery of tartaric acid from wastes of wine and grape juice industries.

The third session has been chaired by Prof. Devrim Balkose and Prof. Mehmet Polat (Izmir Institute of Technology). There have been two lectures in this session.

Investigations of adsorption and porosity properties of carbon-covered alumina surfaces have been discussed in the lecture of P. Staszczuk, M. Bachnio (Department of Physicochemistry of Solid Surface, Chemistry Faculty, Maria Curie-Skłodowska University, Lublin, Poland) and L. Lin, Y. X. Zhu (State Key Laboratory for Structural Chemistry of Unstable and Stable Species, College of Chemistry and Molecular Engineering, Peking University, Beijing, China). A. Dabrowski, M. Iwan, E. Mendyk, Z. Rzaczyńska (Maria Curie-Skłodowska University, Lublin, Poland) and E. Robens (Mainz, Germany) have presented data about investigation of surface properties of lunar regolith.

Prof. V. A. Tertykh, Prof. Muchsin Ciftcioglu (Izmir Institute of Technology) have chaired the 4th session. The session consisted of 3 lectures.

The design and practical implementation of a commercial in situ gravimetric analyzer for neutron diffraction studies have been discussed in a lecture of G. Duffy, M. G. Roper, M. E. Jakson, A. P. Woodhead, M. J. Benham (Hiden Isochema Ltd, Warrington, UK), W. I. F. David, M. Sommariva, R. M. Ibberson (ISIS Facility, Rutherford Appleton Laboratory, Chilton Didcot, Oxon, UK) and M. O. Jones, S. R. Johnson, P. P. Edwards (Inorganic Chemistry Laboratory, University of Oxford, Oxford, UK). The data about measurement of diffusivity of water in polysulfone has been presented in a lecture of M. O. Arslan and S. Alsoy Altinkaya (Izmir Institute of Technology). Dr. T. Vitala (KSV Instruments Ltd, Helsinki, Finland) has given talk about modeling liquid and adsorbed/deposited layer properties with impedance-based quartz crystal microbalance.

The fifth session has included three reports. Prof. G. W. Chadzynski and Prof. Saside Alsoy (Izmir Institute of Technology) have chaired this session. The measurement of humidity has been discussed in a report of E. Robens (Mainz, Germany), D. Balkose (Izmir Institute of Technology), and K. Rubner (Federal Institute for Materials Research and Testing, Berlin, Germany). D. Berkun, D. Balkose, F. Tihminlioglu, S. Alsoy Altinkaya (Izmir Institute of Technology) have delivered a lecture on sorption and diffusion of water vapor on edible films. Dr. Y. Yurekli (co-author S. Alsoy Altinkaya, Izmir Institute of Technology) has spoken about sorption and diffusion behaviors of butylacrylate in rubbery methylmethacrylate-butylacrylate copolymer.

Prof. E. Robens and Prof. Fehime Ozkan have chaired session 6. There have been two lectures in this session. Combustion of polyethylene nanocomposites has been discussed in a lecture of Prof. G. E. Zaikov, S. M. Lomakin, A. L. Rakhimkulov (Institute of Biochemical Physics, Moscow, Russia), I. L. Dubnikova, S. M. Berezina (Institute of Chemical Physics, Moscow, Russia), R. Kozlowski (Institute of Natural Fibres, Poznan, Poland) and Gyeong-Man Kim, G. H. Michler (Martin-Luther University, Halle-Wittenberg, Germany). Information about DNA-Water vapor interactions has been delivered in

the second lecture of this session by Prof. D. Balkose, B. Alp and S. Ulku (Izmir Institute of Technology).

The chairpersons of session 7 were Prof. P. Staszczuk and Acc. Prof. Funda Tihminlioglu. Three lectures have been included in this session. Thermochemistry of hexaoxiodates (VII) has been discussed in a lecture of S. A. A. Javaweera and E. D. Fiagome (School of Science and Technology University of Teeside Middlesbrough, UK). In the second lecture of this session F. Cakicioglu Ozkan, S. Ulku (Izmir Institute of Technology) has spoken about diffusion mechanism of H₂O in the zeolitic tuff rich in clinoptilolite. A lecture of Y. Akdeniz, S. Ulku (Izmir Institute of Technology) has been on thermal stability of Ag-Exchanged clinoptilolite rich mineral.

The last 8th session (chairmen Prof. Sevgi Ulutan and Assoc. Prof. Oguz Bayraktar from Izmir Institute of Technology) has consisted of two lectures. The Jantti-related functions describing adsorption of gases-reconsidered have been discussed in a lecture by E. Robens, J. K. M. Jansen (Faculty of Mathematics, Technische Universiteit Eindhoven, The Netherlands), C. H. Massen, J. A. Poulis (Faculty of Applied Physics, Technische Universiteit Eindhoven, The Netherlands). The last lecture of I. D. Atik, F. Tihminlioglu, B. Ozen has covered water vapor barrier performance of corn-zein coated polypropylene packaging films.

The poster session has included 16 reports including the following: influence of surface irregularities on adsorption, gravimetric adsorption measurements, interface interaction of ice and water, properties of Lunar regolith, carbon nanotubes, heterogeneity of solid surfaces, silica-polyaniline nanocomposites, thermodegradation and thermooxidation, mesoporous in silicates, determination of moisture and pharmaceutical powder, glass transition behaviour, gravimetric sorption apparatus, paraffin wax application, composites on the base of polypropylene, characterization of silk and cure kinetics.

Within the conference instruments companies have organized an exhibition of vacuum microbalance equipment and computer applications.

The next 32nd conference will be held in 2009 in Kazimerz (near Lublin), Poland.