Solid state nuclear track detectors*

The National Seminar on Solid State Nuclear Track Detectors (SSNTDs) held recently is a prelude to the XXI International Conference on SSNTDs to be organized in October 2002 at Delhi, under the auspices of International Nuclear Track Society (INTS).

H. S. Virk (President, NTSI) in his keynote address gave a historical introduction and referred to the early work of R. L. Fleischer, P. B. Price and R. M. Walker at GEC, Schenectady, USA during the sixties. In his invited talk, R. H. Iyer (CSIR Emeritus Scientist at BARC, Trombay) discussed the role of ion track membranes in industry and a project for their mass-scale production in India using heavy ion beams from accelerators. K. K. Dwivedi (Vice Chancellor, Arunachal University, Itanagar) in his invited talk elaborated innovative tracking techniques and studies carried out on channelling of swift heavy ions in crystals.

The three-day symposium was divided into ten sessions, including one poster session. There were forty oral presentations, ten poster sessions and ten invited talks. S. Singh (GNDU, Amritsar) presented results of his group's work on uranium, radium and radon in the environment of Himachal Pradesh. S. Kumar (DRL, Jodhpur) discussed radiation dosimetry concepts and use of SSNTD films in neutron dosimetry. S. K. Chakravarti (REC, Kurukshetra) reviewed the field of micro/ nanotechnology using nuclear track filters as templates and the fabrication of devices. R. Prasad (AMU, Aligarh) highlighted the role of positron annihilation spectroscopy (PAS) in the study of modifications induced by heavy ions in polycarbonates. Rajiv K. Puri (PU, Chandigarh) presented a theoretical paper on multifragmentation in heavy ion nuclear reactions and cluster model. P. C. Kalsi (Radiochemistry Division, BARC) brought into focus gamma irradiation effects on track registration properties of polymer detectors in his invited talk. T. V. Ramachandran (EAD, BARC) reviewed indoor radon/thoron levels in Indian dwellings based on the studies carried out under the Coordinated Radon Project under DAE. It may be mentioned here that for mitigation of radiation hazard, the radon action level has been fixed in the air of dwellings and in drinking water in most of the European countries, but there is no such limit recommended by the Government of India or DAE, as a safeguard for public health. A radon map for India needs to be prepared on priority and the 'hot spots' identified, if any.

A session was devoted to ion tracks technology and its diverse applications. D. Gopalani (DRL, Jodhpur) presented medical applications of nuclear track filters. He demonstrated the use of filters in hospitals for slow drug release in curing skin ailments. Japan and Germany are the only other two countries engaged in this type of research activity. Virk highlighted the rise of radon emanation and its correlation with microseismicity in Kangra valley. R. C. Ramola (Garhwal University, Tehri Campus) presented his results on equilibrium factors for radon and thoron progenies in Garhwal dwellings. V. M. Chaubey (WIHG, Dehradun) discussed the results of his survey carried out in the Doon valley for radon concentration in groundwater. He correlated the radon concentration with uranium mineralization and tectonics of the Doon valley.

C. M. Lilly (Calicut University) gave a presentation on neutron-induced reaction studies in boron and copper using CR-39 detector. V. B. Joshi and R. V. Kolekar (RSSD, BARC) discussed a computer-based image analysis system for measurement of alpha-particle tracks in CR-39 detector. D. S. Srivastava and M. Mujahid (AMU, Aligarh) discussed the results of a study of dielectric loss with frequency in heavy ion irradiated polymers. Measurement of absolute fission yield of short-lived fission products in the fast n-induced fission of thorium by track etch and gamma-ray spectrometry was presented by A. Ramaswami (BARC). Bhajan Singh (Punjabi University, Patiala) presented his work on K-shell Compton cross-section. P. Mukherjee (Kolkata University) analysed the radon data of Palampur station collected by Virk *et al.*, by using a mathematical model to filter noise from the signal, i.e. the influence of meteorological variables.

Almost 50% contributed papers presented at the symposium dealt with radon monitoring in dwellings. H. M. Mahesh (Mangalore University), P. Y. Reddy (Osmania University, Hyderabad), J. Sanappa (Mysore University), V. I. Narasimham (IIT, Kharagpur) and R. S. Kher (Science College, Bilaspur) presented radon monitoring results in dwellings as a part of DAE-sponsored national radon survey project in India.

*A report on the Twelfth National Symposium on Solid State Nuclear Track Detectors organized during 29–31 October 2001 at DAV College, Jallandhar, Punjab under the auspices of Nuclear Track Society of India.

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Aerowoman*

The main objective of the seminar was to bring together the Indian women in the field of aerospace and identify their scientific and technical contributions. In this context, the seminar was perhaps the first of its kind held in India. It was also aptly conducted in the 'Women's Empowerment Year – 2001' declared by the Government of India.

After the welcome address by T. S. Prahlad (Director, NAL), Kalyani Vijayan (NAL), provided an introduction. A unique feature of the inaugural function was a felicitation of the septuagenarian Usha Sundaram, the first woman pilot of the country. Usha Sundaram who had co-piloted India's first Prime Minister Pandit Jawaharlal Nehru, reminisced over some of her memorable experiences.

*A report on the seminar on 'Women in Aerospace in India' acronymed 'Aerowoman' held at the National Aerospace Laboratories, NAL, Bangalore, during 13–14 December 2001.