Three-dimensional imaging of defect distributions using a positron microprobe

A practical technique for evaluating defect distributions in various materials

An intense positron microprobe has been developed for obtaining three-dimensional positron lifetime mappings in a sample to permit visual evaluation of defect distributions. The beam diameter of an intense positron beam injected into the sample was 30 micrometers. Two-dimensional images at arbitrary depth were demonstrated of positron lifetimes in a fused silica sample, which was irradiated with ion beams. The time taken to obtain a single image was about 1 hour.

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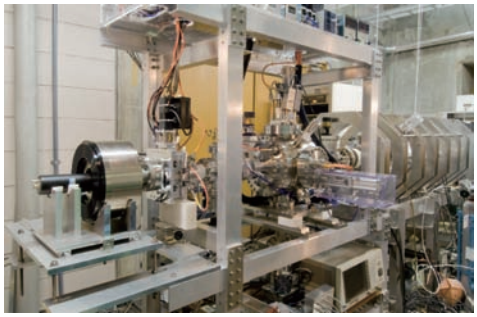
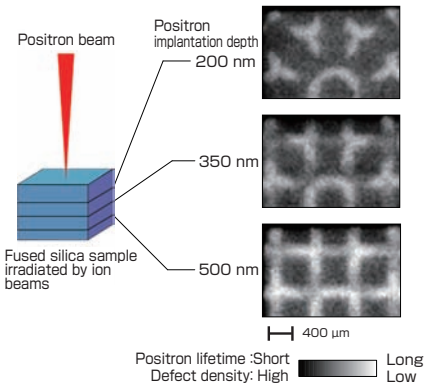


Positron probe microanalyzer



Positron lifetime images of a fused silica sample

In Brief

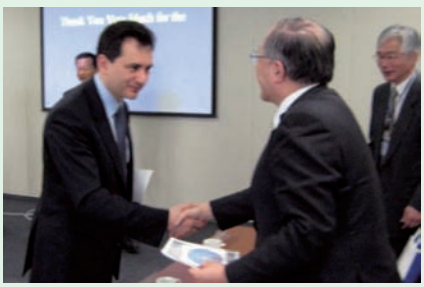
Deputy Prime Minister of the Republic of Serbia Visits Tokyo Akihabara Site

On April 17, H.E. Mr. Bozidar Djelic, Deputy Prime Minister and Minister for Science and Technological Development of the Republic of Serbia, and H.E. Mr. Ivan Mrkic, Serbian Ambassador to Japan, visited AIST Tokyo Akihabara Site.

Dr. Akira Ono, Senior Vice-President of AIST, gave a welcoming speech, which was followed by an overview of AIST by the International Affairs Department, and exchanges of views. Dr. Hideki Imai, Director of the Research Center for Information Security, presented an overview of the center, where Dr. Miodrag Mihaljevic from Serbia has been engaged in research since 2006 as an invited researcher.

The former Socialist Federal Republic of Yugoslavia and Japan signed an agreement on scientific and technological cooperation in 1981, and this has been passed on also to the present Republic of Serbia. The Deputy Prime Minister presented the scientific and technological activities of the Republic, and its participation in European programs and projects such as with FP7 and CERN. He expressed wishes for cooperation with Japan, particularly with AIST, based on the above agreement. The Deputy Prime Minister also stated his interest in revisiting AIST during his next visit to Japan in autumn.

This visit by the Deputy Prime Minister is a good occasion to reconsider future possibilities of research cooperation, including personnel exchange.



Deputy Prime Minister Djelic (left) and AIST Senior Vice-President Ono (right)