

Fully Automated Two Dimensional Electrophoresis System

Proteomic Device Team, Research Center of Advanced Bionics, AIST, has developed an innovative full-automatic 2D electrophoresis system in collaboration with Tokyo University of Technology, Sharp Corp., Toppan Printing Co. Ltd. and Astellas Pharma, Inc. This research has enabled us to reduce 2D electrophoresis time for longer than a day to around 1 hour. In the newly developed system, all the operations, such as injection of biological samples, isoelectric focusing, staining of proteins, rinsing, polyacrylamide gel electrophoresis and detection, are fully automated. This system has also realized highly reproducible 2D electrophoresis.

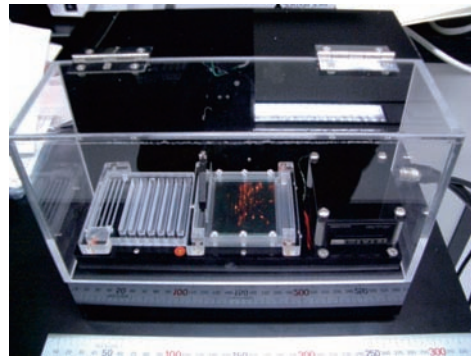


Figure: Fully Automated Two Dimensional Electrophoresis System.

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Metrology and Measurement Technology

Development of Hybrid Fast Neutron Spectrometer

We developed a hybrid fast neutron spectrometer composed of three position-sensitive proportional counters and two surface barrier silicon semiconductor detectors. The hybrid spectrometer can measure energy and recoil angle of a recoil proton simultaneously. The spectrometer successfully gave a neutron spectrum with 1.7% energy resolution for a monoenergetic neutron (5.0MeV) beam.

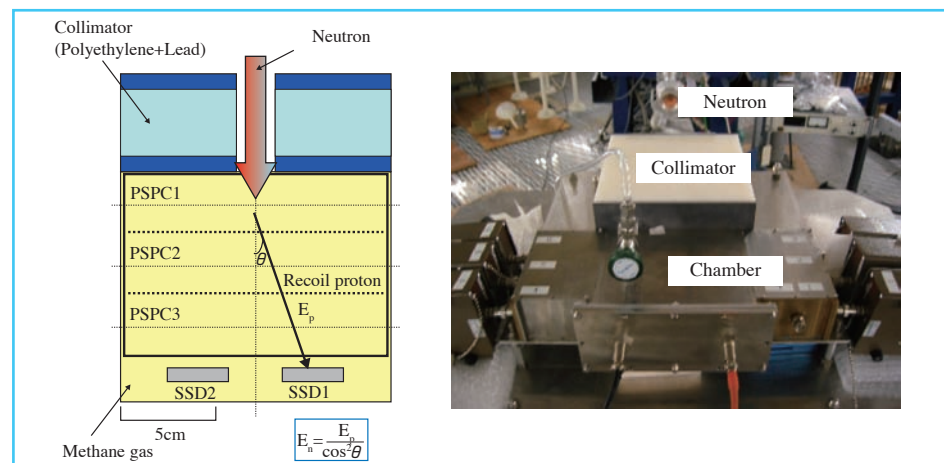


Figure: schematic drawing and photograph of the present spectrometer.

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