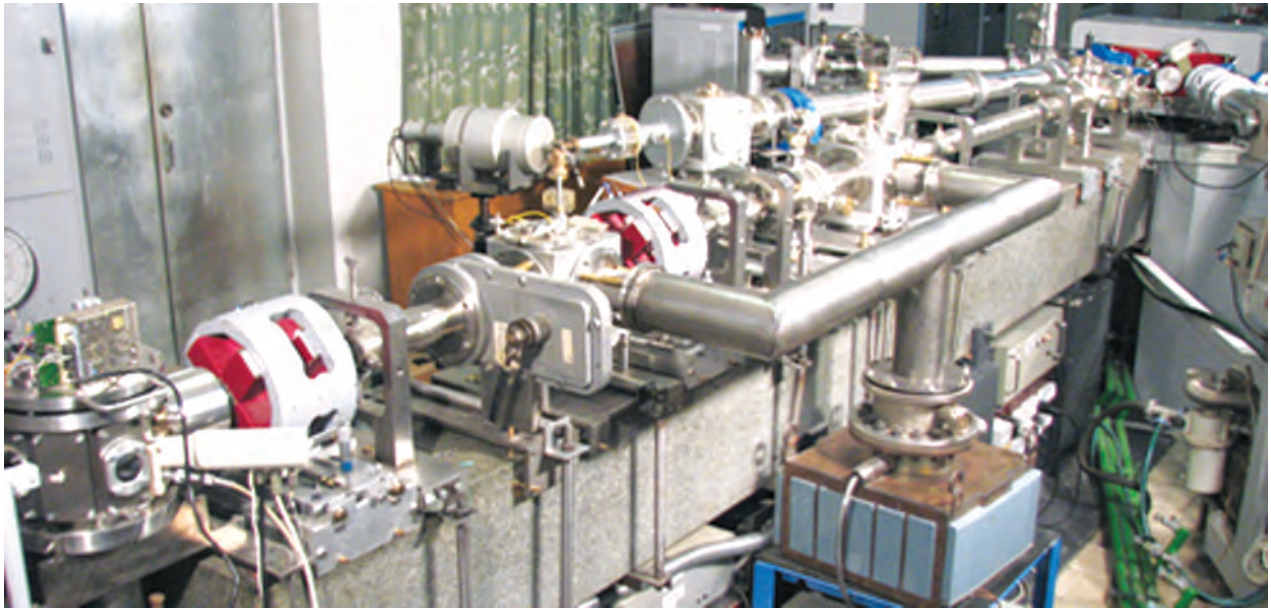


NUCLEAR SCANNING MICROPROBE



Areas of Application

The nuclear scanning microprobe is a high-precision microanalyzer for elemental analysis of materials ranging from hydrogen to uranium with a detection threshold of 1...100 ppm (depending on element and technique).

The use of scanning mode enables to map element distribution in the near-surface layers at a depth of 10–20 μm with a resolution of 2 μm . The analytical technique for element analysis is qualitative and absolute, does not require any reference samples

Specification

Spatial resolution in microanalytical mode, μm	0.6–2
Sort of beam ions	H^+ , He^+
Beam energy, MeV	0.2–1.7
Scanning raster, μm	500
Analytical techniques applied:	
characteristic X-ray radiation, detection threshold, ppm:	1–10
Rutherford backscattering detection threshold, ppm	100
depth resolution, nm	10

Advantages

The nuclear scanning microprobe employs the distributed probe-forming system based on precision magnet quadrupole lenses using a distributed “Russian quadruplet” where the lenses are coupled in integrated doublets made of single piece of soft magnetic material. These doublets are unique and have no counterparts in the world; the probe has a higher resolution as compared with commercial samples

Stage of Development. Suggestions for Commercialization

IRL6, TRL4
Sample manufacture, adjustment, and maintenance, upon request

IPR Protection

IPR3

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