

Patterning topological insulators using ion beams

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The surfaces of Sb₂Te₃ topological insulator crystals were implanted using a 40 keV chromium ion beam at the Centre for Accelerator Science, ANSTO. The resulting chemical structure was studied using atomic-resolution transmission electron microscopy and soft X-ray absorption spectroscopy. A thin magnetic crystalline region is formed near the surface. A uniform valence state of Cr³⁺ is detected, with no evidence of metallic clustering. Superparamagnetic behaviour was detected up to 300 K.

Level of Expertise

Experienced Researcher

Do you wish to take part in the poster slam

No

Travel Funding

No

Speakers Gender

Male

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