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Development of low density materials for beam intercepting instruments

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Materials with a minimal interaction with particle beams are widely used in accelerators in interceptive instruments such as screens, secondary emission grids and wire scanners. Material damage limits are already exceeded in energy frontier and high brightness machines.

A new generation of 'low density' materials with nano-structures are becoming available at scales of interest for use in beam instrumentation. Specifications are increasingly of use but still with fundamental issues that limit their application.

This paper will demonstrate the potential for this class of materials for beam intercepting materials. It will outline the current limitations and ongoing research to overcome them both in the short and long-term.

Footnotes

Funding Agency

I have read and accept the Conference Policies

Yes

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