



Contribution ID: 94

Type: **Poster Presentation**

Thermally Conducting Carbon Foam for Support of Pixel and Silicon Strip Detectors

A new type of low density, thermally conducting carbon foam has been developed for fabrication of low-mass support structures for silicon pixel and silicon strip detectors. The properties of the foam will be described. Prototype structures using the carbon foam have been constructed and tested. Mechanical and thermal measurements will be presented. Results after extensive thermal cycling and irradiation up to doses of 1 GRad will also be described. Future structures and implementation will be proposed.

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Track Classification: Semiconductor Detectors