

# JOM

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# TMS

 Springer

## **About the Cover**

From the article "Dual-beam Irradiation Stability of Amorphous Silicon Oxycarbide at 300 and 500 degrees C" by Qing Su et al., shown is a transmission electron microscopy (TEM) image of a cross-sectional sample consisting of a 300 nm thick amorphous SiOC film (top, right) sitting on a SiO<sub>2</sub>/Si substrate (bottom, left). The SiO<sub>2</sub> portion of the substrate is 300 nm thick. The very top of the sample shows some of the adhesive used in making the cross-section. The entire sample was subjected to a 3 keV He implantation of 2.0x10<sup>17</sup> He/cm<sup>2</sup> while being simultaneously irradiated with 500 keV Kr ions to a dose of 1.4x10<sup>16</sup> Kr/cm<sup>2</sup>. The total dose received was 19.7 dpa. No crystallization, He bubble or void formation, or segregation are observed in the SiOC portion of the sample, suggesting dual-beam irradiation stability at 500 °C. However, the Si substrate contains numerous nanoscale He bubbles and defect clusters.



## **November 2020 Guest Editors**

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### **Solidification Behavior in the Presence of External Fields**

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## **About JOM:**

The scope of *JOM* (ISSN 1047-4838) encompasses publicizing news about TMS and its members and stakeholder communities while publishing meaningful peer-reviewed materials science and engineering content. That content includes groundbreaking laboratory discoveries, the effective transition of science into technology, innovative industrial and manufacturing developments, resource and supply chain issues, improvement and innovation in processing and fabrication, and life-cycle and sustainability practices. In fulfilling this scope, *JOM* strives to balance the interests of the laboratory and the marketplace by reporting academic, industrial, and government-sponsored work from around the world.

## **About TMS:**

The Minerals, Metals & Materials Society (TMS) is a professional organization that encompasses the entire range of materials and engineering, from minerals processing and primary metals production to basic research and the advanced applications of materials.

## **Publishing Information:**

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