OAK RIDGE NATIONAL LABORATORY
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Hot Target Approach for Pulsed DC Sputtering of Non-Conducting Materials

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Technology Summary

A novel DC sputter deposition approach has been demonstrated for non-conductive materials, such as semiconductors. In fact, this is the first known deposition of an intrinsically-doped semiconductor material using DC sputtering. This approach is also suitable for low temperature substrates and is capable of producing crystalline thin films. The process provides a lower-cost sputtering alternative and can be applied to high volume manufacturing of flexible electronics, including applications such as photovoltaics, solid state lighting, thin film batteries, and thin film displays.

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