

**Project Title:** SiC Device Reliability, Yield, and Control of Enhanced Carrier Lifetime

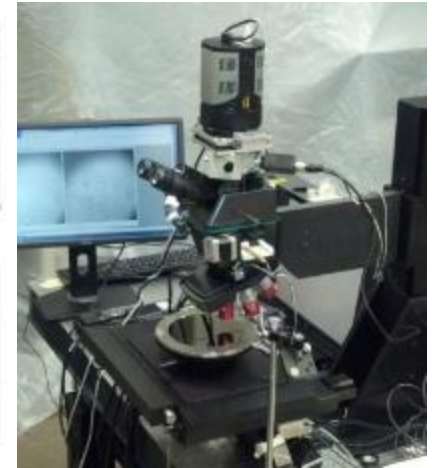
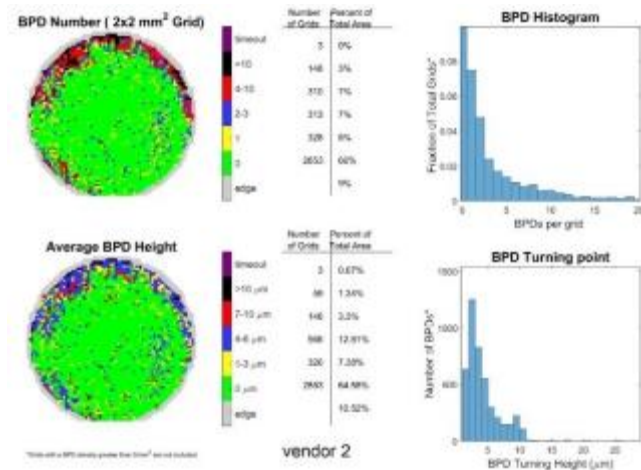
**Objectives:** Assist PowerAmerica members in screening materials defects in wafers to increase yield, apply non-destructive depth profiling of carrier lifetime in the thick epitaxial layers needed to develop  $\geq 10$  kV IGBTs.

Task No. BP5-3.6

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## WBG Technology Impact

1. Market segments impacted: All markets affected by lower cost, higher performance and higher voltage SiC power devices.
2. For non-destructive detection and tracking of materials defects in SiC epi that adversely affect devices, the imaging systems that NRL has developed are the state-of-the-art. NRL will aid fab partners to cost effectively suppress materials defects and control drift lifetime.

## Accomplishments/Outcomes

1. In Q1 did UVPL extended defect mapping on 10 wafers. After fabrication by PA member, device yield map will be correlated with BPDs and other extended defects.