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On the detection of multiple events in atom probe tomography

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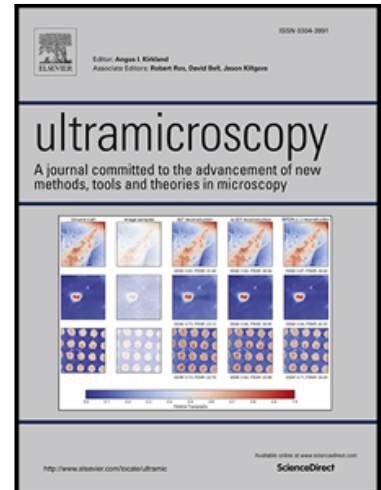
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Highlights

- Delay line detectors in atom probe tomography exhibit dead time and dead zone.
- For both Cameca LEAP 5000 XS and 5000 XR instruments, the dead time is about 3 ns.
- The dead zone evolves with the propagation of signals on the delay lines.
- The dead time and dead zone can cause signal loss during multiple events detection.
- The compositional and spatial accuracies can be strongly deteriorated.

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