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Self-Consistent Atom Probe Tomography Reconstructions Utilizing Electron Microscopy

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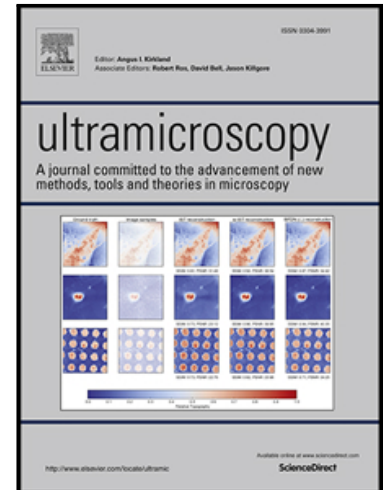
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Highlights:

- The relationships between atom probe tomography reconstruction parameters are presented.
- Atom probe tomography reconstructions where the values known from electron microscopy and the user input values are completely consistent with the output reconstructions are demonstrated.
- A consistent power law relationship between the image compression factor and detection efficiency is found for all of the analyzed specimens.
- This technique may be used to find the specimen evaporation field at the end of the atom probe analysis and to possibly determine how many atoms were undetected/unranged.
- Concepts in this methodology should allow for straightforward incorporation into atom probe tomography reconstruction software.

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