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# Characterizing Microcracks with an Out-of-focus Camera

Presenter: Andrew Leong (P-4)

Mentors:

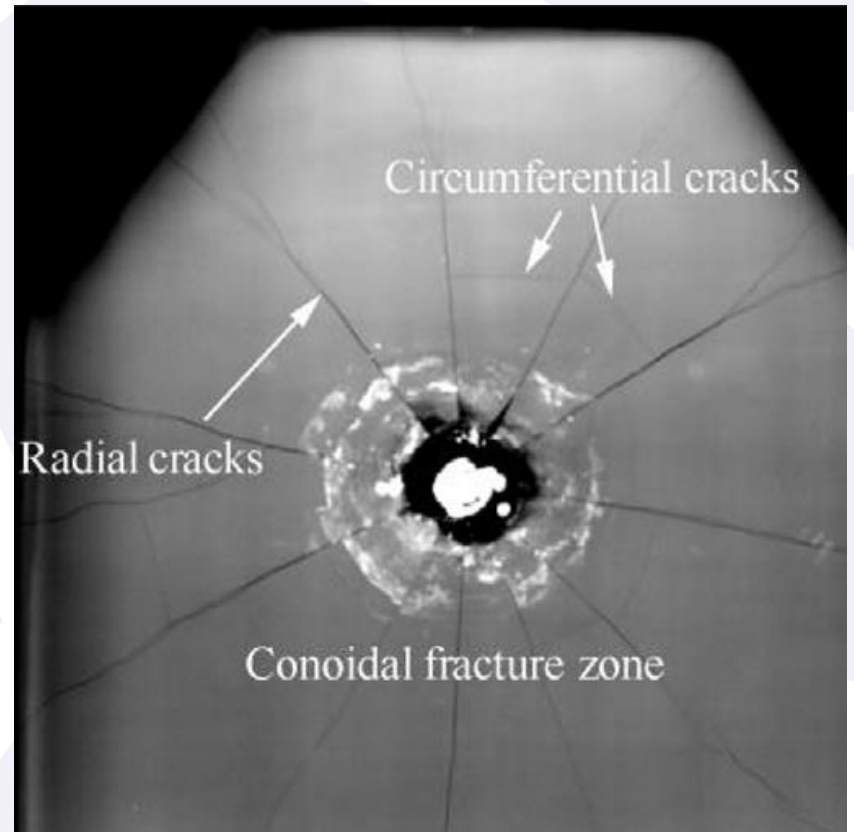
David Montgomery

John Barber

Jon Cawkwell

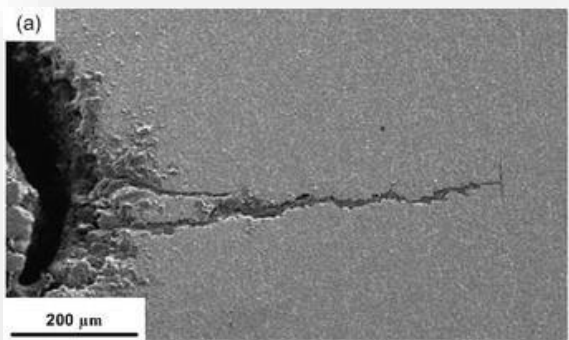
6/30/2021

# Microcracks: Can we avoid it?

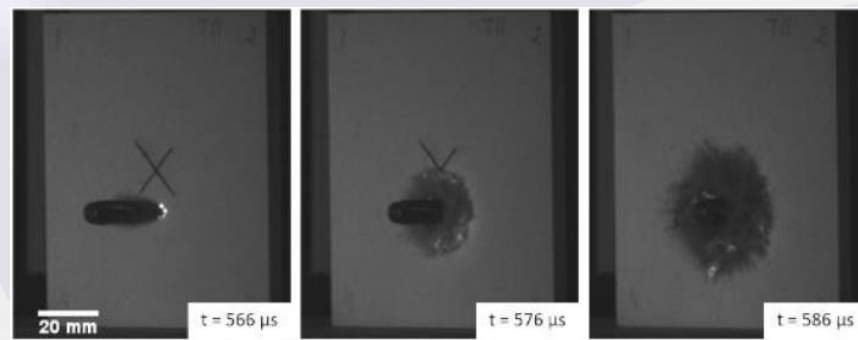


# An Impasse in Imaging Microcracks

Resolution vs. Speed



High resolution



High speed

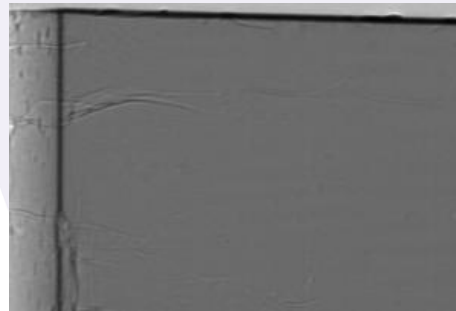


# Breaking the Impasse: Phase Contrast X-ray Imaging

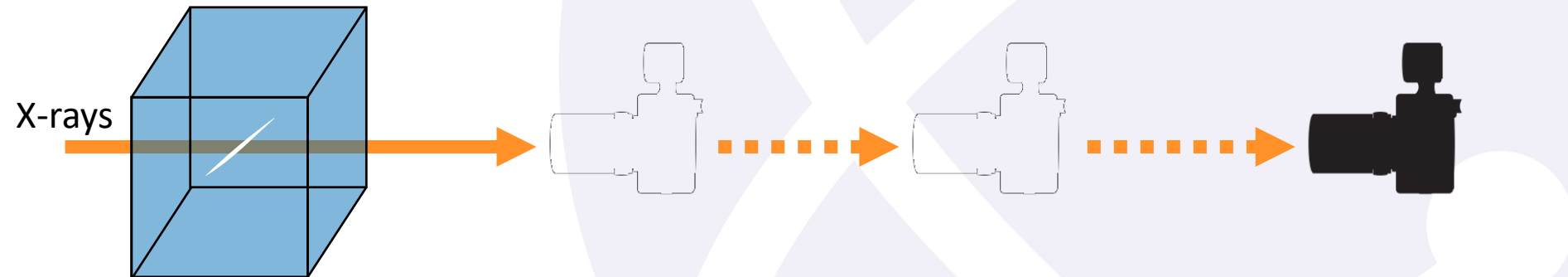
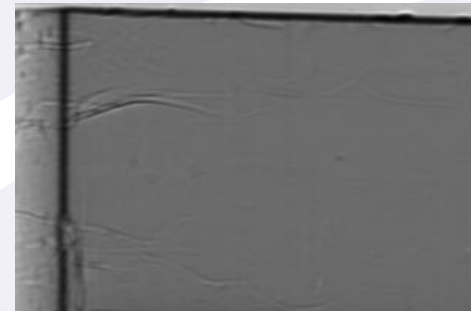
Focused



Moderately  
Out-of-focused

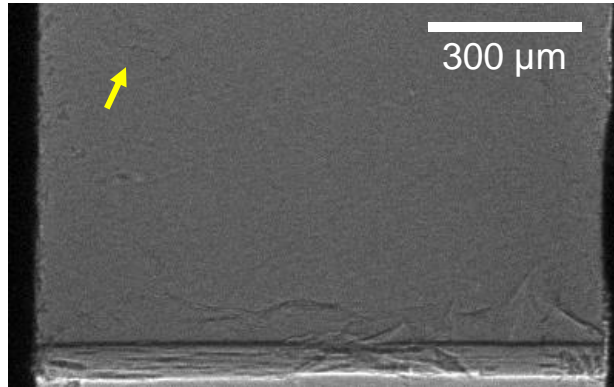


Highly  
Out-of-focused

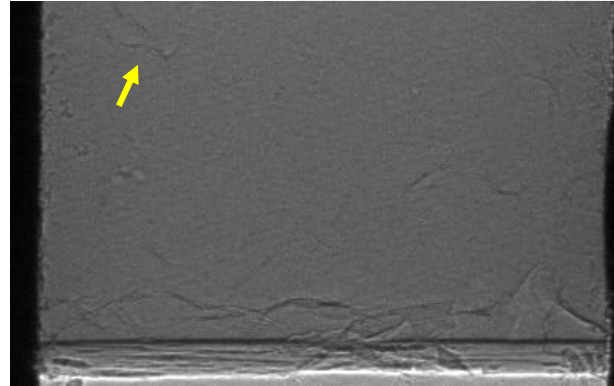


# Phase Contrast X-ray Imaging of Microcracks

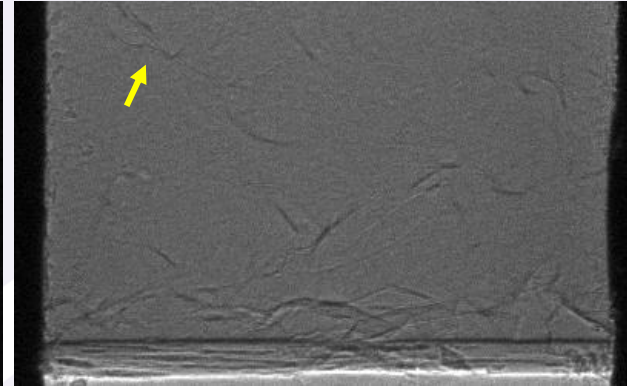
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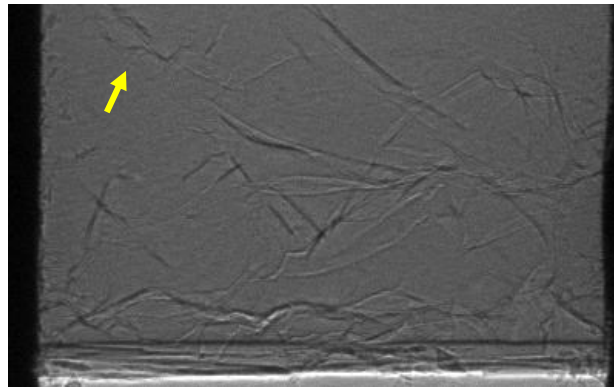
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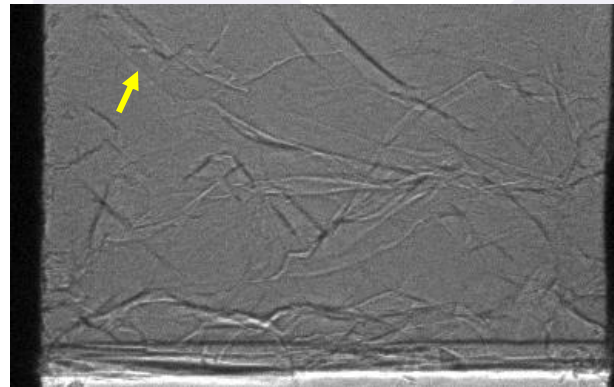
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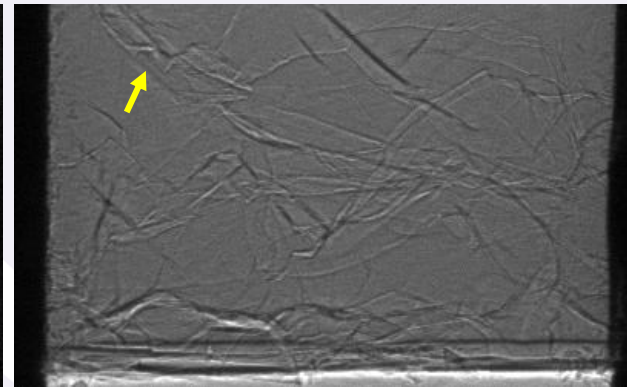
3  $\mu\text{s}$



4  $\mu\text{s}$



5  $\mu\text{s}$



# We now have images, what's next?

