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## Signs of plastic response in surfaces exposed to high electric fields.

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Various theoretical efforts explored the link between breakdown nucleation and pre-breakdown plastic activity in surfaces exposed to high electric fields. However, identifying such a mechanism is challenging as there are no clear indications of what structural evolution evidence should be identifiable in ex-situ post-mortem samples. The current state of research efforts to identify and measure the direct and indirect effects of such evolution is presented with specific emphasis on results and challenges of TEM microscopy of subsurface structure as depicted from cross-sectional lamellas. This is followed by a discussion of future experimental scenarios and current estimates of derived constraints on response to external field and exposure conditions.

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