

Abstract Submitted  
for the DFD05 Meeting of  
The American Physical Society

**Bursting of a fluid film in a viscous environment** ETIENNE REYSSAT, DAVID QUÉRÉ, Collège de France, Paris — Owing to its high surface area, a fluid sheet is not stable. The nucleation of a hole in such a film leads to its bursting. We present experimental results about the bursting of fluid sheets in a viscous atmosphere (as it occurs as drops of water coalesce in a water/oil emulsion). Contrasting with the explosion of a soap film in air, the environment plays a dominant role in the dynamics of the opening of a hole in the sheet. A simple model is provided to explain the observed bursting speeds. We also describe different hydrodynamic instabilities that occur in such a process.

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Date submitted: 29 Jul 2005

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