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Hydrogen accumulation in copper: hydrostatic effect on dislocations

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When metal surfaces are exposed to the hydrogen ion irradiation, light ions are expected to penetrate deep into the material and dissolve in the matrix. However, these atoms are seen to cause significant modification of surfaces indicating that they accumulate in vicinity of the surface. The process known as blistering may reduces the vacuum dielectric strength above the metal surface, which shows dense population of surface blisters.

In order to study this effect, we use molecular dynamics to investigate the effect of the different pressures and void geometries. This will shed light on the dislocation formation and its role in the change of the surface morphology.

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