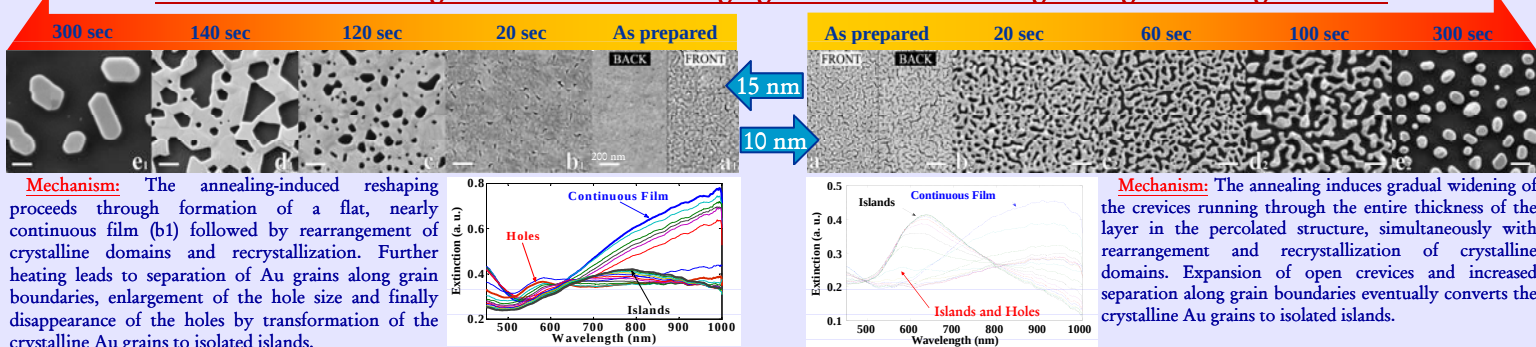


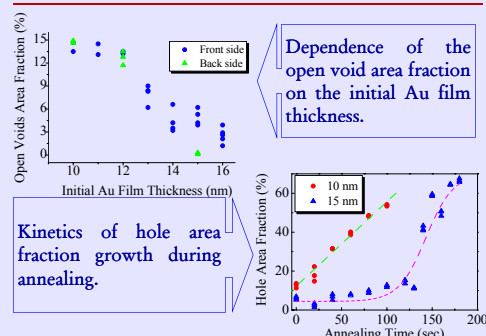
Morphology and Optical Properties of Gold Island Films Formed by Annealing of Percolated Evaporated Gold Layers

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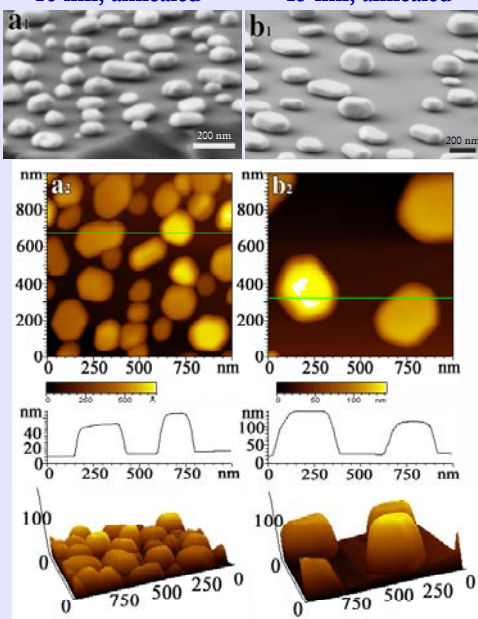
In-situ Kinetics and High-Resolution SEM Imaging of Au Film Dewetting during Annealing at 550 °C



Void Area Fraction of Percolated Au Films

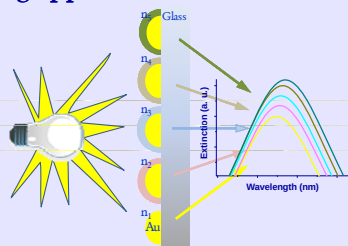


High-Resolution SEM and AFM Imaging

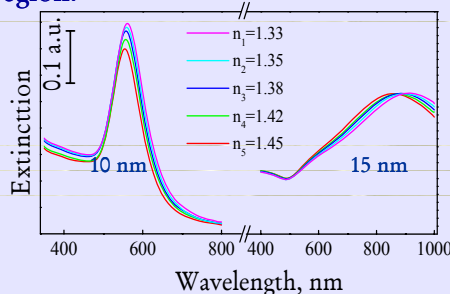


Localized Surface Plasmon Resonance

Noble metal nanoisland films supporting localized surface plasmon resonance (LSPR) are interesting as optical transducers in a variety of sensing applications.

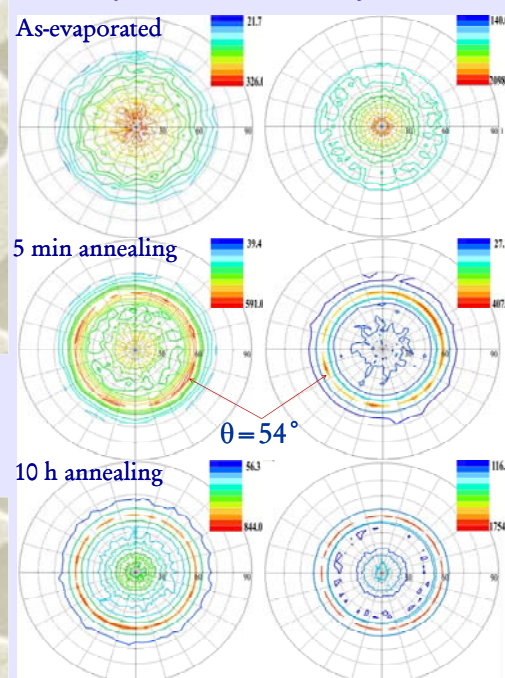


The surface plasmon (SP) band position and shape, as well as the response to change in the refractive index of the medium, are dramatically different for annealed percolated films; the SP band shifts for various island films from the visible to the near IR region.

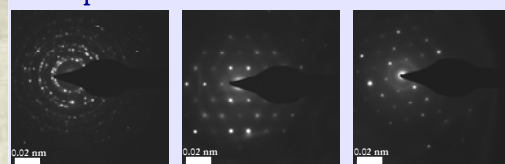


X-Ray Diffraction Analysis

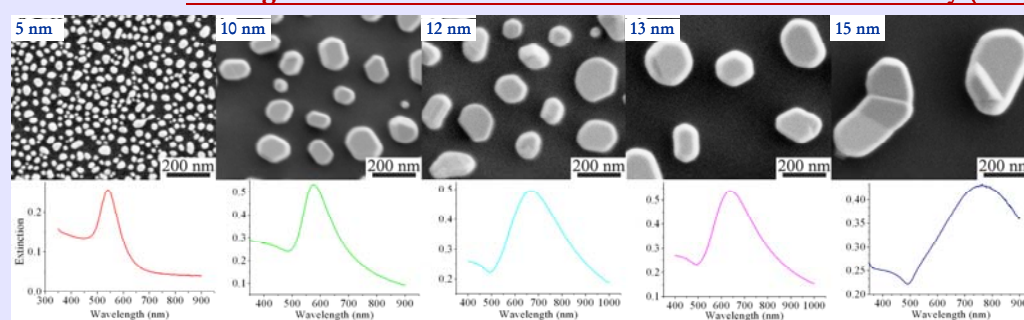
Pole Figures of Au (2 0 0) Plane



Selected-area electron diffraction of 10 nm Au film and individual islands after annealing



Tuning of the SP Band Position and Refractive Index Sensitivity (RIS) of Annealed Au Island Films



The RIS of LSPR transducers increases with island size. The island films formed from percolated Au layers show exceptionally high RIS values, up to ca. 700 nm/RIU, considerably higher than previously reported values for Au island films.

