

NANO LIGHTNING BOLTS

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In 1752, Benjamin Franklin realized that electrical charges are drawn to sharp points. In his experiments, he tried to prevent lightening strikes by pulling the electricity from the clouds into sharp rods. This was the birth of the lightning rod as we know it.

NU-NSEC researchers have discovered that a similar effect occurs when silver or gold nanoparticles are irradiated with light. In this image, the contours of the electric fields around two gold 600 nanometer discs are illustrated. The results show that the area between the nanoparticles and near the sharp tips is enhanced. These nano lightning bolts can be used to enhance the optical signal of molecules on the surface of the nanoparticles, making the molecules easier to detect with spectroscopic measurements.

