

Abstract Submitted  
for the MAR16 Meeting of  
The American Physical Society

**Structure Evolution of Metal Nanoparticles in Water Environment.** YI GAO, BEIEN ZHU, Shanghai Institute of Applied Physics, Chinese Academy of Sciences — Metal nanoparticles have drawn extensive attentions in materials science due to their widespread applications in electronics, engineering and catalysis. A very fundamental question is their structure evolution and surface segregation. Many recent observations have shown that reactive gases or supports may have strong effects on the morphology change and surface segregation. However, the effect of water—the most common solvent and environment—has not received enough attention. Here, we will give two examples to show water adsorption could induce the morphology change and strong surface segregation tendencies for the metal nanoparticles. This finding not only prompts us to re-examine the potential effects of water on metal nanoparticles, but would be also very helpful as a guide for the further theoretical and experimental studies in this field.

Yi Gao  
Shanghai Institute of Applied Physics, Chinese Academy of Sciences

Date submitted: 02 Dec 2015

Electronic form version 1.4