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Advanced Electron Microscopy Characterization of Nanomaterials for Catalysis

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Advanced Electron Microscopy Characterization of Nanomaterials for Catalysis**Dong Su****Center for Functional Nanomaterials, Brookhaven National Laboratory, Upton,
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Abstract:

Transmission electron microscopy (TEM) has become one of the most powerful techniques in the fields of material science, inorganic chemistry and nanotechnology. In terms of resolutions, advanced TEM may reach a high spatial resolution of 0.05 nm, a high energy-resolution of 7 meV. In addition, *in situ* TEM can help researcher to image the process happened within 1 ms. This paper reviews the recent technical approaches of applying advanced TEM characterization on nanomaterials for catalysis. The text is organized according to the demanded information of nanocrystals from the perspective of application: for example, size, composition, phase, strain, and morphology. The electron beam induced effect and *in situ* TEM are also introduced. I hope this review can help the scientists in related fields to take advantage of advanced TEM to their own researches.

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