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# Correlating Electrocatalytic Oxygen Reduction Activity with d-Band Centers of Metallic Nanoparticles

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## Abstract

The establishment of correlating the electronic structures with the activity of non-noble-metal electrocatalysts toward the oxygen reduction reaction (ORR) plays a pivotal role in designing high-performance cathodic electrocatalysts. Here, a procedure of metallic Fe-family nanoparticles (NPs), such as nitrides ( $\text{Co}_{5.47}\text{N}$ ,  $\text{Fe}_4\text{N}$  and  $\text{Ni}_3\text{N}$ ) and zero-valence metals (Co

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