

Abstract Submitted
for the MAR16 Meeting of
The American Physical Society

**Theoretical Investigation of Supported Ultra-Thin
Cobalt/Nickel/Iron/Manganese Oxides** MICHAL BAJDICH, MAX GARCA
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— In the last decade, a number of experiments have shown that ultra-thin layers
of transition metal oxides (TMOs) can be stabilized when interfaced with precious
metal supports such as Au(111) and Pt(111) or Ir(100). Moreover, gold supported
Co/Ni/Mn-based catalysts have been experimentally proven to exhibit higher oxy-
gen evolution reaction (OER) activities than other metal supported oxide catalysts.
However, the synergistic effect of contact with gold support is yet to be fully un-
derstood. In this talk, I will report on our recent investigation of thermodynamic
stability and high water reactivity of ultra-thin cobalt oxide nanoislands sup-
ported on Au(111). Furthermore, the stability trends, scaling of the metal-support
interaction and charge transfer of several Mn/Fe/Co/Ni supported oxides on all
FCC(111) metals will be analyzed. The type and role of different edge sites for the
OER activity of these nanoislands will be discussed.

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Date submitted: 06 Nov 2015

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