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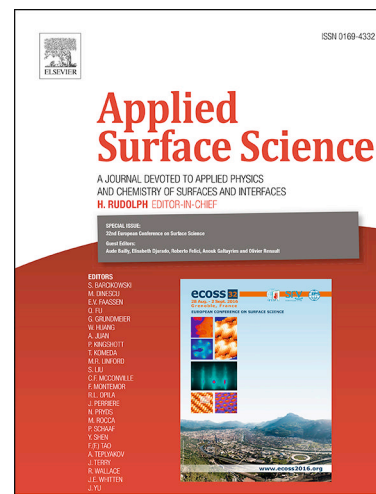
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Ammonium nickel phosphate on nickel foam with a Ni^{3+} -rich surface for ultrasensitive nonenzymatic glucose sensors

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Highlights:

- The proportion of $\text{Ni}^{3+}/\text{Ni}^{2+}$ of the electrode treated by H_2O_2 solution were increased.
- The K_{cat} of Ni^{3+} -rich surface electrode is much bigger than the untreated electrode.
- The $\text{NH}_4\text{NiPO}_4 \cdot \text{H}_2\text{O}/\text{Ni}$ foam exhibited a low enough detection limit of $0.009 \mu\text{M}$.
- Ni^{3+} -rich surface electrode showed a ultra high sensitivity ($11361 \mu\text{A} \cdot \text{mM}^{-1} \cdot \text{cm}^{-2}$).

Abstract

We propose a new, simple and effective strategy to enhance the electro-catalytic activity by regulating the valence states of the electro-catalyst. The proportion of $\text{Ni}^{3+}/\text{Ni}^{2+}$ on the ammonium

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