NiFeP/NiMoP as OER/HER catalyst for OWS in Alkaline media

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NiFeP and NiMoP are synthesized through simple two process: cation exchange and phosphorization. At first, ZnO nanowire is growing up at Ni Foam by hydrothermal method. NiFeO and NiMoO nanowire are formed by cation exchange process of ZnO nanowire. NiMoO and NiFeO are phosphorized in furnace at 450 °C 2 hours. NiFeP and NiMoP maintain nanowire structure during phosphorization. Transition metal based NiFeP and NiMoP are cheap and sustainable electrocatalyst. This material shows high high electrocatalyst ability in alkaline media. The combination of NiMoP/NiFeP as a cost-effective, stable HER/OER catalyst completed the OWS system, which required low potential to generate high current densities.