



# Digitally patterned resistive micro heater as a platform for zinc oxide nanowire based micro sensor

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## Abstract

Among the various techniques for micro patterning of metal oxide nanowire, the resistive micro heater is promising technique due to the merit of localized and selective growth of sensing nanowire. In this study, we introduce a facile maskless fabrication of resistive micro heater using selective laser sintering of silver nanoparticle without using any conventional photolithography or vacuum deposition. By localized hydrothermal synthesis of ZnO nanowire using Joule heating of the resistive micro heater, the digitally patterned resistive micro heater is applied to the ZnO nanowire based micro UV sensor.

**Keywords:** ZnO; nanowire; selective laser sintering; resistive micro heater; hydrothermal growth

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