

# **Design of trapped surface charge for the photoelectrochemical fabrication of GaN mesostructures**

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## **Abstract**

In this note we demonstrate that artificially introduced surface defects in GaN epilayers are stable against photoelectrochemical etching in aqueous solution of KOH. The origin of this stability is attributed to the negative charge trapped by the surface defects. Using 2 keV Ar ion treatment, we show that the pattern of surface defects and related trapped charge can be efficiently designed for the purpose of manufacturing GaN mesostructures.