

ABSTRACT OF THE DISCLOSURE

A film of a II - VI group compound semiconductor of at least one of elements belonging to the II group of the periodic table and at least one of elements belonging to the VI group of the periodic table is deposited on a substrate. When the film is deposited on the substrate, a plasma of nitrogen in an excited state is applied to the substrate while removing charged particles from said plasma by a charged particle removing means. The deposited film of a nitrogen-doped II - VI group compound semiconductor has an increased percentage of activated nitrogen atoms and improved crystallinity.