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(54) **Title:** METHOD FOR DEPOSITING HIGHLY DOPED ALUMINUM NITRIDE PIEZOELECTRIC MATERIAL

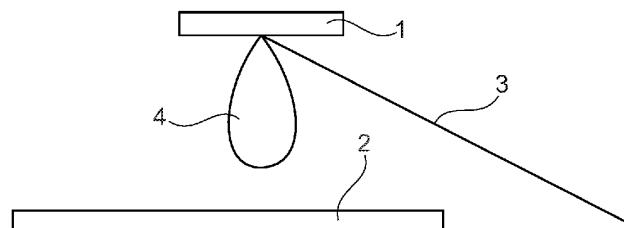


Fig. 1A

(57) **Abstract:** The invention relates to a method for manufacturing a doped wurtzite aluminum nitride piezoelectric thin film material, which method comprises the steps of: providing a deposition device, such as a pulsed lased deposition device or a physical vapor deposition device, with a target and a substrate, wherein the target material is a doped aluminum nitride composite, wherein the doping element is a rare earth element, preferably scandium; depositing a first layer of the target material on the substrate by operating the deposition device, wherein the kinetic energy of the plasma particles being deposited is above a first threshold value; depositing a second layer of the target material on top of the first layer by operating the deposition device, wherein the kinetic energy of the plasma particles being deposited is below a second threshold value and wherein the first threshold value is larger than the second threshold value.



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