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Nitrogen-Doped Ultrananocrystalline Diamond/Hydrogenated Amorphous Carbon Composite Films/p-Silicon heterojunction TSUYOSHI YOSHITAKE, ABDELRAHMAN ZKRIA, Department of Applied Sciences for Electronics and Materials, Kyushu University — Nitrogen-doped ultrananocrystalline diamond/hydrogenated amorphous carbon composite (UNCD/a-C:H) films were grown by coaxial arc plasma deposition method (CAPD), in ambient of nitrogen and hydrogen mixed gas. Heterojunction structures of n-UNCD/p-Si were prepared by growing n-doped UNCD thin films onto p-type Si (100) substrates. The heterojunction parameters were evaluated based on current–voltage and capacitance–voltage measurements at room temperature. The obtained results introduce the n-UNCD/p-Si heterojunction as a candidate for the electronic device applications

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