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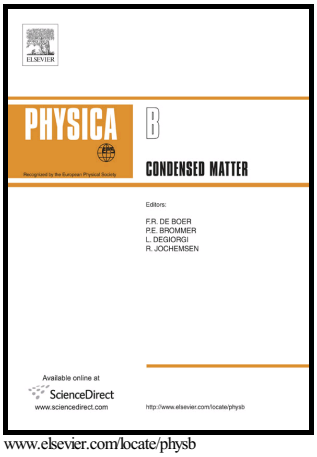


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# Influence of annealing temperature on physical properties and photocatalytic ability of g-$C_3N_4$ nanosheets synthesized through urea polymerization in Ar atmosphere

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***Abstract.*** The influences of annealing temperature on structure, morphology, vibration, optical properties and photocatalytic abilityof g-$C_3N_4$ nanosheets synthesized from urea in Ar atmosphere were investigated in detail by using x-ray diffraction (XRD) analysis, scanning electron microscopy (SEM), X-ray photoelectron spectroscopy (XPS), Brunauer–Emmett–Teller (BET), Fourier transform infrared spectroscopy (FTIR), UV-vis absorption, and photoluminescence (PL). It was found that the preparation temperature had a great effect on structure and physical properties of g-$C_3N_4$. As the processing temperature increased from 450