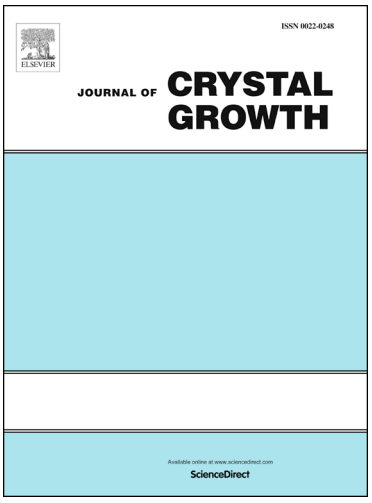

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An analysis of the specificity of defects embedded into (100) and (111) faceted CVD diamond microcrystals grown on Si and Mo substrates by using E/H field discharge

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The PE CVD method with magnetic field discharge stabilization was applied for the growth of arrays of freestanding diamond grains (island films) as well as continuous films on Mo and Si substrates with (111) and (100) faceted microcrystals, respectively. Raman, SEM, XRD and PL methods were used for search of the specific features of defects embedded into (100) and (111) faceted grains. The main characteristic differences in the defect states of the diamond island films grown on Si and Mo substrates with (100) and (111) faceted diamond microcrystals were discussed on the base of the experimental data.

Keywords: A1.Nucleation; A1.Optical microscopy; A1.Crystal structure; A3. Chemical vapor deposition processes; B1.Diamond.