

PECULIARITIES OF THE GROWTH OF
SELF-ASSEMBLED Ge NANOISLANDS
ON SILICON SUBSTRATE

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S u m m a r y

We have used atomic force microscopy and micro-Raman scattering to study how the density, volume, shape, and composition of Ge islands change depending on the thickness of the deposited Ge layer and Si substrate temperature. The fact that the bimodal island size distribution is related to two (pyramid- and dome-like) possible forms of their equilibrium configuration is confirmed. The island composition is shown to be of the mixed $\text{Ge}_x\text{Si}_{1-x}$ -like type due to surface diffusion of Si atoms from the substrate. This process is strongly enhanced when temperature increases.