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## Formation of Ge nanoislands on pure and oxidized Si surfaces by MBE

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### Abstract

The discussion deals with experimental data on the process of formation of self-organized Ge islands on an oxidized atomically pure Si(100) surface. Unlike the Stranski-Krastanow mechanism, which is characteristic of Ge growth on a pure silicon surface, the Volmer-Weber growth mechanism is observed on the oxidized silicon surface. The growth process is accompanied by a considerable change (up to 7%) in the surface unit cell of Ge relative to the parameters of Si. The generated nanoislands are less than 10 nm in base size and have a density of more than  $2 \times 10^{12} \text{ cm}^{-2}$  for a Ge film not thicker than five monolayers. (© 2004 WILEY-VCH Verlag GmbH & Co. KGaA, Weinheim)

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