

Abstract Submitted
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Bimodal island size distribution in heteroepitaxial growth¹ RANDALL HEADRICK, Department of Physics and Materials Science Program, University of Vermont, PRIYA CHINTA, Department of Physics, University of Vermont — A bimodal size distribution of two dimensional islands is inferred during interface formation in heteroepitaxial growth of Bismuth Ferrite on (001) oriented SrTiO₃ by sputter deposition. Features observed by in-situ x-ray scattering are explained by a model where coalescence of islands determines the growth kinetics with negligible surface diffusion on SrTiO₃. Small clusters maintain a compact shape as they coalesce, while clusters beyond a critical size impinge to form large irregular connected islands and a population of smaller clusters forms in the spaces between the larger ones.

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