Abstract Submitted
for the MAR07 Meeting of
The American Physical Society

The type-C defect on the Si(001)-2×1 surface JA-YONG KOO, SANG-YONG YU, HANCHUL KIM, Korea Research Institute of Standards and Science — The type-C defect is the last unresolved point defect on the Si(001)-2×1 surface. Several kinds of atomic models have been suggested as the origin of the C-defect. We investigated the clean Si(001)-2×1 surface by scanning tunneling microscopy to measure the statistical distribution of several kinds of point defects on the surface. We compared the results on the clean surface with the adsorption of water molecules on the Si(001)-2×1 surface. We discuss the possibility of water molecules as the origin of the type-C defect on Si(001)-2×1.

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Date submitted: 20 Nov 2006

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