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# Monte Carlo Investigation of Adsorption Stage of O on Ru(0001): a Study of a Lattice Model

XIONG Guo-Ming and LI Xia

Department of Applied Physics, Sichuan University (west area), Chengdu 610065, China
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Abstract: The adsorption of O on Ru(0001) is studied by means of Monte Carlo simulation of lattice gas model on a triangular lattice. A recent STM study shows that at low coverage the p(2×2) structure grows via island formation but the p(2×1) structure is abruptly formed at a critical coverage. Moreover, it also shows that there is a coexistence of the p(2×2) and p(2×1) structures. The above results seem not to coincide with the former studies of the system by both the LEED and Monte Carlo simulation. We therefore carried out the Monte Carlo study for the system again in the present paper and found that our simulation almost agrees with the results of the STM.

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