# Erratum: Growth and morphology of ultrathin Fe films on Cu(001) [Phys. Rev. B 52, 8528 (1995)]

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Because they are somewhat unclear in the published paper, Fig. 2(a)–2(e) are reprinted here to clarify details hard to see in the original version. This reprinting does not invalidate or alter any of the conclusions of the paper.

 

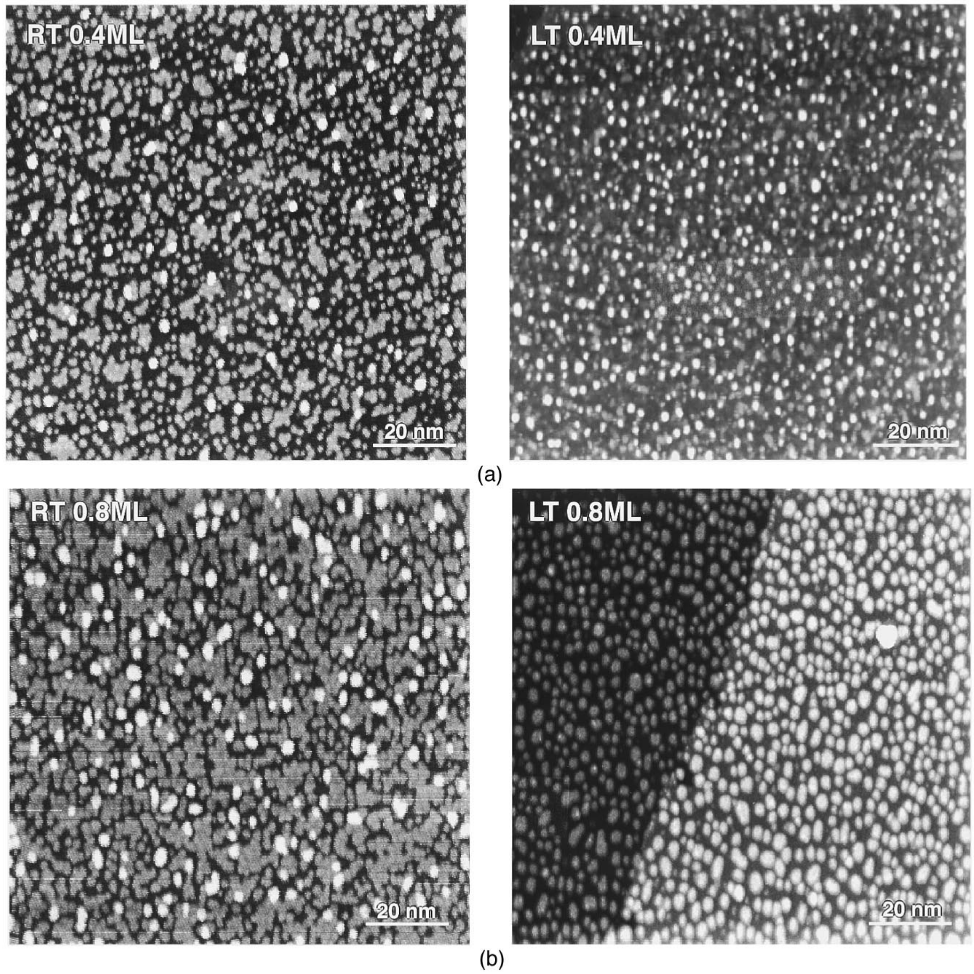


FIG. 2. (a)–(c). The surface topography of Fe films deposited on Cu(001) at room temperature (RT), and at low temperatures ($T \approx 130$ K) and annealed at 300 K (LT). All figures show an area of approximately $100 \times 100$ nm imaged with a scanning tunneling microscope operating in a constant current mode with a positive sample bias of 0.6–1 V and a tunneling current of 0.1–0.3 nA. (a) This particular figure shows the topography of 0.4-ML-thick films. A significant part of the original surface remains exposed (darkest gray level). Both first- and second-layer islands (shown progressively whiter) are visible. Note the high nucleation density evident in both room- and low-temperature deposited films. The proportion of second-layer islands is higher in the LT-deposited film. (b) A 0.8-ML-thick film. In the RT-deposited film, the additional 0.4 ML is mostly seen in enlarged first-layer islands, which appear very close to their percolation threshold (0.9 ML). The size of the islands in the LT-deposited film is similar to that of the 0.4-ML film. Consequently, they acquire an almost classical bilayer structure. They will percolate at 1.2 ML. Note that the terrace step visible in the image of the LT-deposited film. (b) A 0.8-ML-thick film. In the RT-deposited film, the additional 0.4 ML is mostly seen in enlarged first-layer islands, which appear very close to their percolation threshold (0.9 ML). The size of the islands in the LT-deposited film is similar to that of the 0.4-ML film. Consequently, they acquire an almost classical bilayer structure. They will percolate at 1.2 ML. Note that the terrace step visible in the image of the LT-deposited film has no effect on the growth morphology. This is not the case for RT-deposited films (see the text). (c) 1.6-ML-thick films, i.e., films that are on the threshold of establishing the long-range ferromagnetic order ($T_C > 200$ K). The RT-deposited film has already started a stable layer-by-layer growth (there are at most three levels visible at any stage, see also Fig. 5), the mode it will continue from now on. The second layer in the RT film is approaching its percolation threshold (1.7 ML). Some partial coalescence of the original bilayers occurs in the LT-deposited film resulting in a small reduction in the island density. Note the large number of third-layer islands visible in the LT film whereas there are almost none in the RT film. The LT growth begins a Stranski-Krastanov-like growth mode.

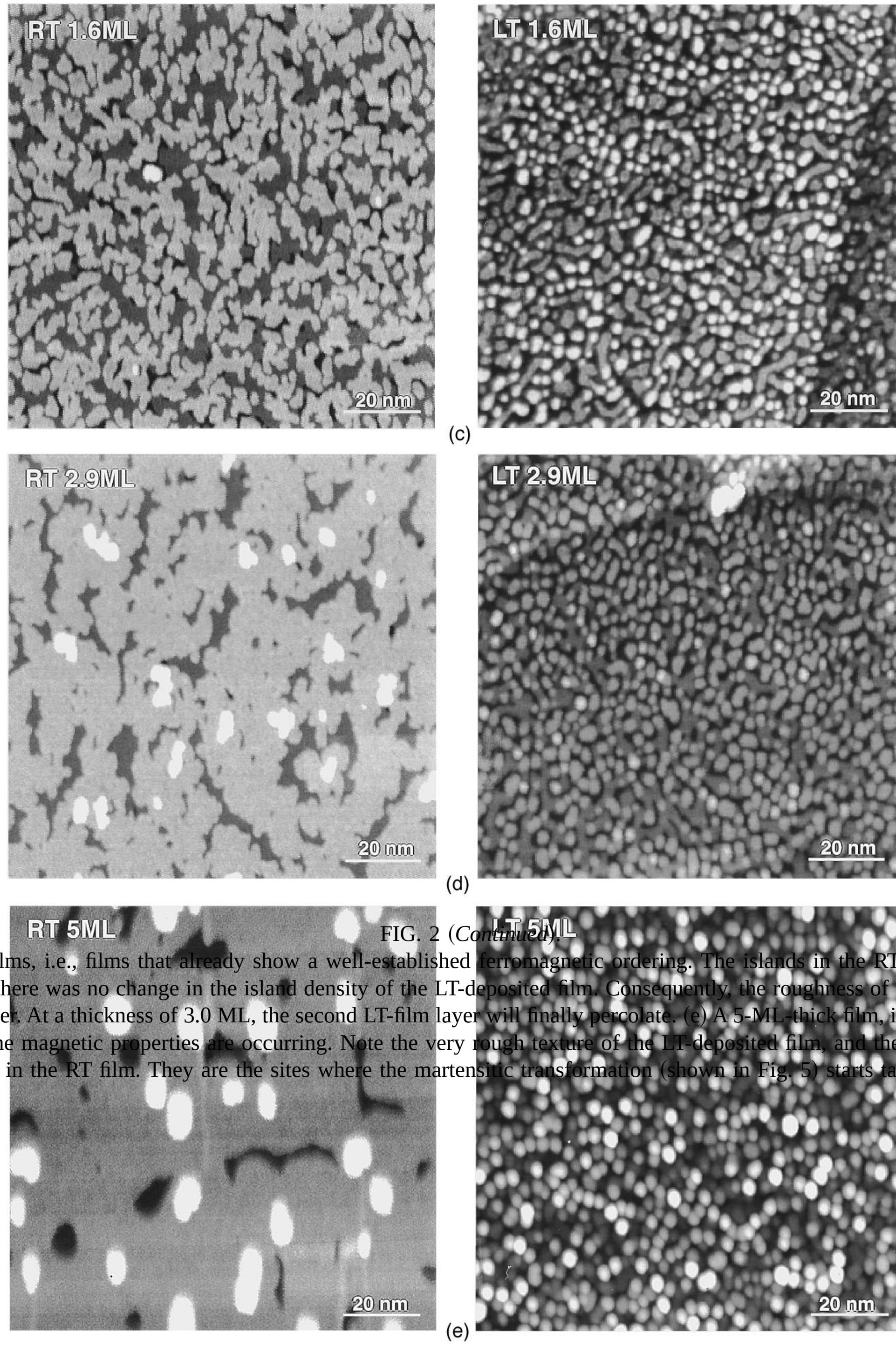


FIG. 2 (*Continued*).
(d) 2.9-ML-thick films, i.e., films that already show a well-established ferromagnetic ordering. The islands in the RT-deposited film grew much larger while there was no change in the island density of the LT-deposited film. Consequently, the roughness of the LT-deposited film is significantly higher. At a thickness of 3.0 ML, the second LT-film layer will finally percolate. (e) A 5-ML-thick film, i.e., a thickness where major changes in the magnetic properties are occurring. Note the very rough texture of the LT-deposited film, and the appearance of faint, vertical protrusions in the RT film. They are the sites where the martensitic transformation (shown in Fig. 5) starts taking place.