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Erratum

Erratum to ''Formation of the wetting layer in Ge/Si(111) studied by STM and XAFS'' Thin Solid films 369 (2000) 29–32☆

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The whole section on the second page of the article (p. 30), starting from '*If we reasonably assume…*' in Par. 3.1 to '*…the average number of islands*' in the same par. on p. 31, should be rewritten as follows:

If we reasonably assume that the growth is conservative, i.e. that all the Ge deposited contributes to the growth of the wetting layer, one would expect that $S \propto \theta$ (here S is the fraction of surface covered with Ge, while θ is the total Ge deposited), as can be actually inferred from our data reported in Table 1.

However, a log–log plot of N vs. θ (shown in Fig. 2) yields a linear behavior, meaning that the average number of islands per unit surface, N, scales as a power of total coverage, θ: $\langle N(\theta)\rangle \propto \theta^{\alpha}$; we find $\alpha = -1.80 \pm 0.80$; (see Table 1 and Fig. 2).

Here $\langle r\rangle$ denotes the average dimension of the islands as a function of coverage. Since $\langle r\rangle$ is proportional to $(S/\langle N\rangle)^{1/2}$, this would naturally lead to a growth law of the type: $\langle r(\theta)\rangle \propto \theta^{1/z}$, with a critical index which we estimate to be $z = 0.70 \pm 0.20$, remarkably, the correlation coefficient is 0.99, but unfortunately, we only have three experimental points which highlight this behavior.

This type of growth law can be derived from first principles Statistical Mechanics [20] and has been shown to be valid for other systems [21], but with a different critical index ($z = 4$).

This inconsistency could seem rather puzzling at first thought, however, we note that, in some cases, like the one illustrated in Fig. 1b, the formation of the isolated triangular islands is in competition with step flow growth, making it difficult to count properly the average number of islands. There may be several explanations for this unexpected physical behavior:

1. the growth law — and therefore the resulting critical index — will definitely depend on the geometry of the systems involved, in this case, both the substrate and the 2-D islands retain a triangular symmetry;
2. remarkably, the islands we are observing here are 2-D, not 3-D as reported in ref. [20, 21].

As is shown in ref. [22], for the same 'geometrical' reason, the values of the percolation threshold (which is discussed below) can be quite different, depending on the geometrical shape (square, circular or triangular) of the islands which are densely covering the surface.

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