Erratum: Surface Criticality at a Dynamic Phase Transition [Phys. Rev. Lett. 109, 175703 (2012)]

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(Received 17 April 2013; published 7 June 2013)

DOI: [10.1103/PhysRevLett.110.239903](https://doi.org/10.1103/PhysRevLett.110.239903)

PACS numbers: 64.60.Ht, 05.50.+q, 05.70.Ln, 68.35.Rh, 99.10.Cd

The data shown in our recent Letter have been obtained for the model Hamiltonian

$$H = -J_b \sum_{\langle x,y \rangle} S_x S_y - J_s \sum_{\{x,y\}} S_x S_y - J_{sb} \sum_{[x,y]} S_x S_y - H(t) \sum_x S_x, \quad (1)$$

which contains the additional term $-J_{sb} \sum_{[x,y]} S_x S_y$ not included in the original manuscript. This term describes the interaction between a surface and a bulk spin with the coupling strength J_{sb} .

The data for the two-dimensional case have been obtained for $J_{sb} = J_b = 1$, which renders Eq. (1) identical to the Hamiltonian given in the published paper. However, for the three-dimensional case the data shown in the Letter have been obtained for the fixed value of the surface coupling $J_s = J_b = 1$ and varying strengths of the surface-bulk coupling J_{sb} . Erroneously, we assigned in our manuscript the value $J_{sb} = J_b = 1$ to the surface-bulk coupling and had J_s as the coupling whose strength is allowed to vary. Consequently, in Figs. 3, 4(b), and 5, as well as in the text discussing the three-dimensional case (starting from the top of the second column on page 3) one needs to replace J_s by J_{sb} . As an example, the corrected Fig. 3 is given here. Note that in the corrected figure we omit the data for $J_{sb} = 0$ that correspond to an isolated two-dimensional plane.

We emphasize that these corrections do not alter the conclusions of the Letter in any way, namely, that the surface critical exponents at the dynamic phase transition differ from their equilibrium counterparts.

This work is supported by the U.S. National Science Foundation through Grants No. DMR-0904999 and DMR-1205309.

FIG. 3 (color online). The corrected figure, where we now label the lines with J_{sb} . Note that in (c) and (d) we have removed the data sets that were obtained for $J_{sb} = 0$ and correspond to an uncoupled two-dimensional plane.