

WATCHING ATOMS MOVE

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David Ehrenstein and Davide Castelvetti, American Physical Society

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WATCHING ATOMS MOVE

Researchers usually compare "before" and "after" pictures of typical regions of a material to see how it changes during a phase transition. But now a team has watched a specific set of atoms continuously during a surface phase transition to see exactly how it occurs, and has made atomic-scale movies. In the 4 February PRL they describe their ultrastable scanning-tunneling microscope, or STM, that can remain fixed on the same set of surface atoms, even as the temperature rises by 100 Kelvin—a huge warming that would cause other microscopes to "lose their place." By studying one especially pristine region of the surface, the researchers were able to learn how the transition occurs, atom-by-atom, in a perfectly clean system.

(I. Brihuega et al., Phys. Rev. Lett. 94, 046101)

Link to the paper: <http://link.aps.org/abstract/PRL/v94/e046101>

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