

Abstract Submitted  
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**The theory of domain patterns in ferroelastics** ALLAN JACOBS,  
Physics, University of Toronto — The theory of ferroelastic domain patterns is well developed and it explains qualitatively the domain patterns observed experimentally in many materials. It is known that much of the complexity of these patterns, which differ remarkably from those in conventional order-parameter systems, results from the differential rotation associated with domain walls. But there has been no direct confrontation between theory and experiment at a more quantitative level. I propose here such a confrontation. Specifically, I shall present predictions (obtained from numerical work) of the atomic displacements at the collision of orthogonal domain walls in tetragonal-orthorhombic ferroelastics and suggest that they be compared with HREM images of these materials.

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