

1.7. TOPICS ON SPACE GROUPS TREATED IN VOLUMES A1 AND E

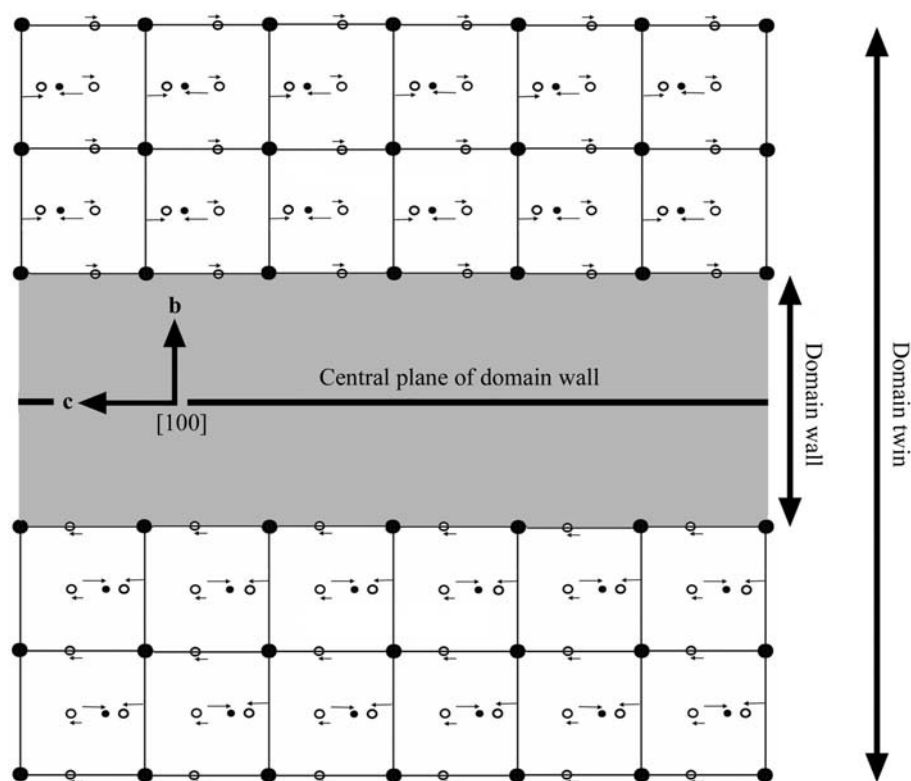


Figure 1.7.3.4

The domain twin consisting of the two domain states of tetragonal symmetry $P4_zm_xm_y$ and a domain wall of orientation (010) passing through the origin of the domain twin.

wall passes through the origin (Volume E, 2010). The symmetry of the central plane is the sectional layer group $pm_xm_zm_y$, where p denotes the lattice of translations in the $x, 0, z$ plane.

Let \mathbf{n} denote a unit vector perpendicular to the central plane of the domain wall; in this example \mathbf{n} is in the [010] direction. The symmetry of the domain wall consists of:

- (1) all elements of the symmetry group of the central plane that leave \mathbf{n} and both domain states invariant, *i.e.* in this example, all translations of p , 1 and m_x ; and
- (2) all elements of the symmetry group of the central plane that invert \mathbf{n} and switch the domain states, *i.e.* in this example, 2_x and $\bar{1}$.

The symmetry of the domain wall is then $p2_x/m_x$.

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