

## Erratum

Bifurcation analysis of the Eckhaus instability, Physica D 46 (1990) 57–86

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The second paragraph of section 7 on page 83 should read:

The multiplicity of the eigenvalues  $\lambda_n$  is doubled, with eigenvectors  $e^{iQ_n x}$  and  $ie^{iQ_n x}$ . (These are linearly independent over the reals, as are  $\sin(Q_n x)$  and  $\cos(Q_n x)$ : one should consider  $A = (\text{Re}(A), \text{Im}(A))$  as belonging to a two-dimensional real vector space whose components are coupled via (3.1).) Perhaps the most important consequence of replacing free-slip by periodic boundary conditions arises from the splitting of this degeneracy at the primary bifurcation points  $\mu_n = Q_n^2$ . That is, the pure-mode state (7.1) retains the damped eigenvector  $a_{n0} \propto A$  with eigenvalue  $\sigma_{n0} = -2(\mu - Q_n^2)$ , but has an additional eigenvector  $ia_{n0} \propto dA/dx$  called the *marginal* or *translational mode* whose eigenvalue is zero for all  $\mu \geq Q_n^2$ . The remaining eigenvalues  $\sigma_{nk \pm}$  of the pure-mode states are each of multiplicity two.