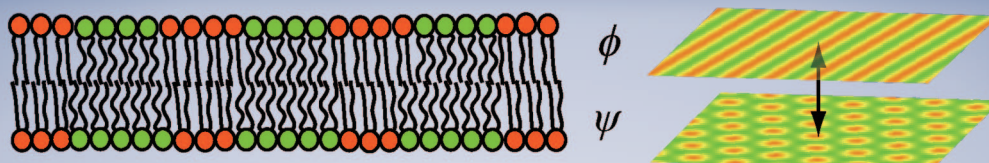
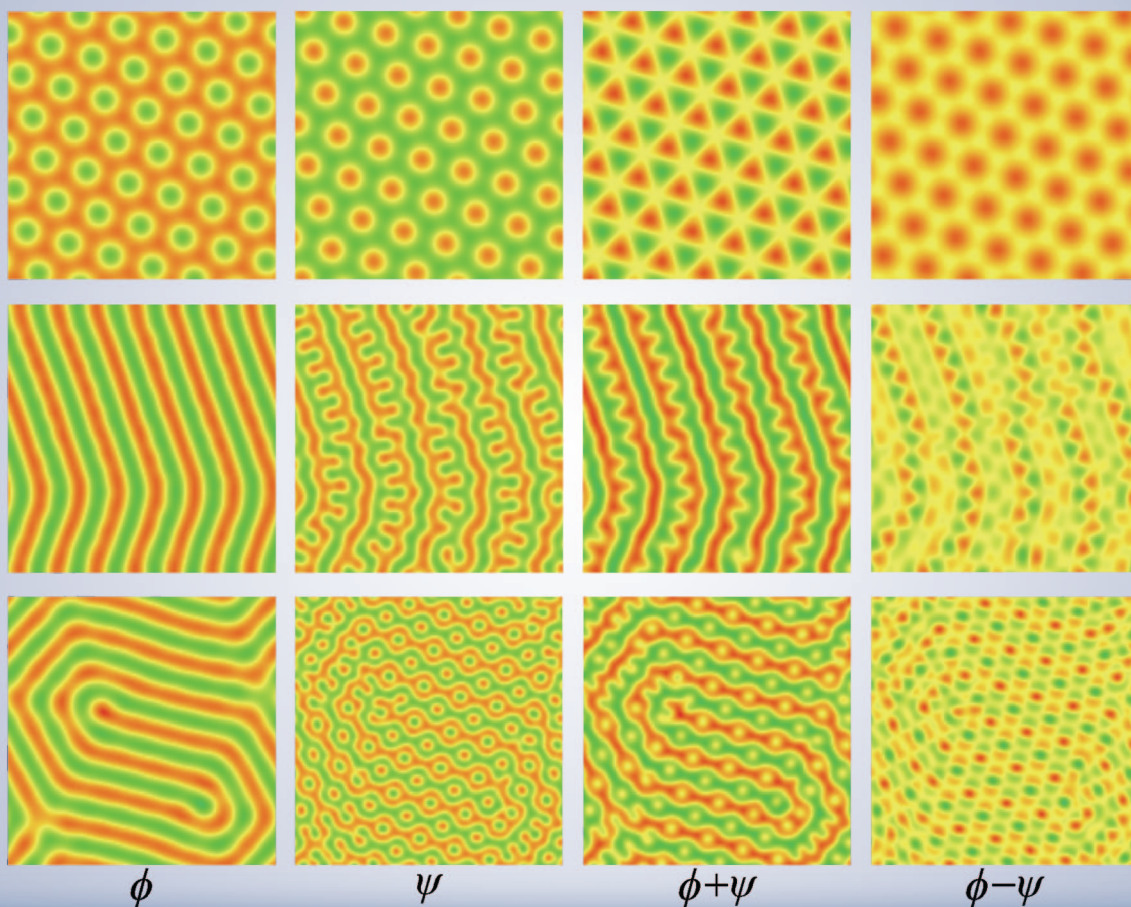


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**Coupled Modulated Bilayers** $\phi$  $\psi$  $\phi+\psi$  $\phi-\psi$ 

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## Cover Picture

Yuichi Hirose, Shigeyuki Komura, and David Andelman\*

The cover picture shows two-dimensional concentration patterns which result from a model of coupled modulated lipid bilayers. The top figures illustrate two coupled modulated monolayers forming a bilayer membrane. Each monolayer is composed of a binary A/B lipid mixture, which can have a spatial modulation (either striped or hexagonal). The relative composition of the two lipids in the upper and the lower leaflets are defined by  $\phi$  and  $\psi$ , respectively. The coupling arises from the interactions between the lipid tails across the bilayer midplane. The obtained equilibrium patterns of  $\phi$ ,  $\psi$ ,  $\phi+\psi$ , and  $\phi-\psi$  are presented for several cases. The first column is a combination between normal and inverted hexagonal phases. The second and the third columns are combinations of two striped phases which have different inherent wavelengths between  $\phi$  and  $\psi$ . The wavelengths of  $\psi$  in the third column is smaller than that in the second column. In general various complex patterns arise from the frustration between the two incommensurate but annealed structures, as shown by D. Andelman et al. on p. 2839.

