

Higgs phase.

$$\langle H \rangle = H_0 \neq 0$$

\mathbb{Z}_2 flux and monopoles expelled.

Emergent \mathbb{Z}_2 gauge field.

Topological order.

$$\langle \Phi \rangle = 0$$

Vasons

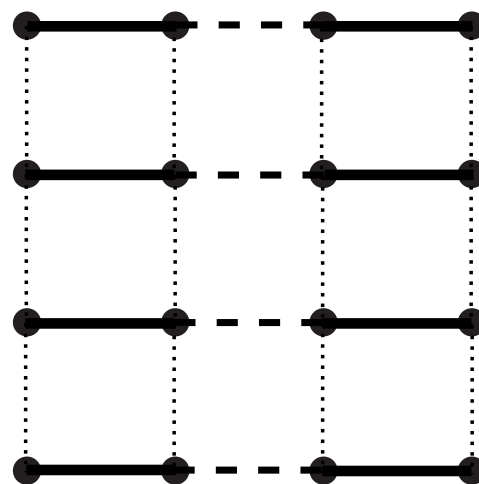
doubly degenerate.

U(1) confined.

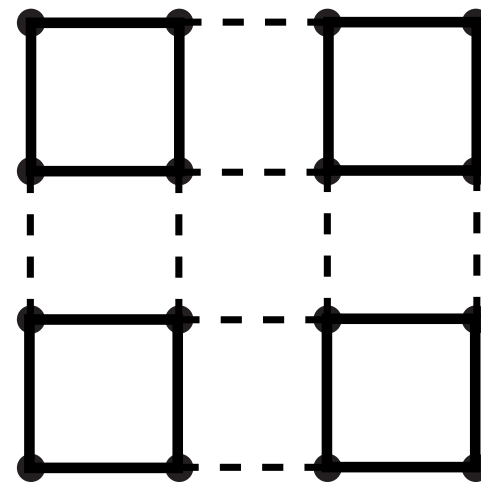
Monopoles proliferate.

$$\langle H \rangle = 0$$

No topological order.



or



$\langle \Phi \rangle \neq 0$
VBS order

g_c

\tilde{g}

g