Constructing Non-Abelian Vortices with Arbitrary Guage Group

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- BPS vortices in $U(1) \times G$ gauge theory
  (G : arbitrary Lie group)

- Vortices are characterized by weight vectors of dual group

  $\widetilde{G}$ with simple roots $\quad \tilde{\boldsymbol{\alpha}}_i \equiv \dfrac{\boldsymbol{\alpha}_i}{\boldsymbol{\alpha}_i \cdot \boldsymbol{\alpha}_i} \quad \longrightarrow \quad$ Duality ?

- **Moduli space of BPS vortices**

- Powerful and general framework for the studies of BPS vortices in $U(1) \times G$ gauge theories

- Moduli spaces of single vortex for several G