massive real vector field $\{A^\mu(x)\},\ A^\mu(x) \in \mathbb{R}^4$ $\mathcal{L} = -\frac{1}{4}F_{\mu\nu}F^{\mu\nu}$ dof = not 4 but 2 (−1 dof by Lorenz gauge −1 by residual gauge)	massive real scalar field $\{\phi(x)\},\ \phi(x) \in \mathbb{R}$ $\mathcal{L} = \frac{1}{2}(\partial_\mu\phi)(\partial^\mu\phi) - \frac{1}{2}m^2\phi^2$ dof = 1 **O(1)** (discrete ±1)	**massive real vector field** $\{\phi_\mu(x)\},\ \phi_\mu(x) \in \mathbb{R}^4$ $\mathcal{L} = -\frac{1}{2}(\partial_\alpha\phi_\beta)(\partial^\alpha\phi^\beta) + \frac{1}{2}(\partial_\alpha\phi^\alpha)(\partial_\beta\phi^\beta) + \frac{1}{2}m^2\phi_\alpha\phi^\alpha$ dof = not 4 but 3 (−1 dof removed by EoM)
interacting spin-1 and charged spin-0 $\{A^\mu(x)\},\ \phi(x)$ $\mathcal{L} = -\frac{1}{4}F_{\mu\nu}F^{\mu\nu} + \frac{1}{2}(D_\mu\phi)^*(D^\mu\phi) - \frac{1}{2}m^2\phi^*\phi$ minimal subst. $D_\mu \equiv \partial_\mu - \mathrm{i}\, e\, A_\mu$	**massive complex scalar field** $\{\phi(x), \phi^*(x)\},\ \phi(x) \in \mathbb{C}$ $\mathcal{L} = \frac{1}{2}(\partial_\mu\phi)^*(\partial^\mu\phi) - \frac{1}{2}m^2\phi^*\phi$ dof = 2 **U(1)**	**massive real spin-0 dublet** $\Phi(x) = \{\phi_1(x), \phi_2(x)\} \in \mathbb{R}^2$ $\mathcal{L} = \frac{1}{2}\left((\partial\phi_1)^2 + (\partial\phi_2)^2\right) - \frac{1}{2}m^2\left(\phi_1^2 + \phi_2^2\right)$ dof = 2 **SO(2)**
	massive complex spin-0 dublet $\Phi(x) = \{\phi_1(x), \phi_2(x)\} \in \mathbb{C}^2$ $\mathcal{L} = \frac{1}{2}(\partial_\mu\Phi^{\mathrm{T}})^*(\partial^\mu\Phi) - \frac{1}{2}m^2\Phi^{\mathrm{T},*}\Phi$ dof = 4 **SU(2)**	**massive real spin-0 tripplet** $\Phi(x) = \{\phi_1(x), \phi_2(x), \phi_3(x)\} \in \mathbb{R}^3$ $\mathcal{L} = \frac{1}{2}(\partial_\mu\Phi^{\mathrm{T}})(\partial^\mu\Phi) - \frac{1}{2}m^2\Phi^{\mathrm{T}}\Phi$ dof = 3 **SO(3)**