

$$G_H^{\text{sea}}(B, T, z) = \frac{\int_0^{1/T} \mathrm{d}\tau \int \mathrm{d}y \int \mathrm{d}x}{Z(B, T)} \int \mathcal{D}U e^{-S_g}$$

$$\times \prod_{f=u,d,s} \det M \left(U, q_f B, m_f \right) \mathcal{G}_{f_1 f_2}(B=0, \boldsymbol{x})$$