

$$f(x,y,z,w) = - \underbrace{(\sin(x+y) + (x-y)^2 - 1.5x + 2.5y + 1)}_{\text{McCormick}} - \underbrace{\left(\frac{z^4 - 16z^2 + 5z + w^4 - 16w + 5w}{2}\right)}_{\text{Styblinski-Tang}} + \varepsilon \quad (\varepsilon \sim \mathcal{N}(0, 10^{-8}))$$