

$$f_1(H) = H \cdot B(H)$$

$$f_1'(H) = B(H) + H \frac{\mathrm{d}B}{\mathrm{d}H}$$

$$\begin{aligned} f_1''(H) &= \frac{\mathrm{d}B}{\mathrm{d}H} + \frac{\mathrm{d}B}{\mathrm{d}H} + H \frac{\mathrm{d}^2 B}{\mathrm{d}H^2} \\ &= 2 \frac{\mathrm{d}B}{\mathrm{d}H} + H \frac{\mathrm{d}^2 B}{\mathrm{d}H^2} \end{aligned}$$