

$$1 = (1 + b(s-t)^2 + (r-t)^2)^2 - (1 + b(s-t)^2) \dots$$

$$\begin{pmatrix} C_{tt} & C_{ts} \\ & C_{ss} \\ & & C_{rr} \end{pmatrix}$$

Need 2 expand properly!

$$\begin{pmatrix} C_{tt}^{1/2} & & \\ & C_{ss}^{1/2} & \\ & & C_{rr}^{1/2} \end{pmatrix} \begin{vmatrix} 1 \\ \\ \end{vmatrix}$$

$$g(t) = C_{tt}^{-1/2} \nabla f(t)$$

$$\text{then } \text{cov}(g(t), g(s)) = C_{tt}^{-1/2} \text{cov}(\nabla f(t), \nabla f(s)) C_{ss}^{-1/2}$$

$$\begin{pmatrix} 1 & H_b & H_b \\ H_b & 1 & \\ & & 1 \end{pmatrix}$$

$$\begin{pmatrix} 1 & 1 + b(s-t)^2 & 1 + b(r-t)^2 \\ & 1 & \\ & & 1 \end{pmatrix}$$