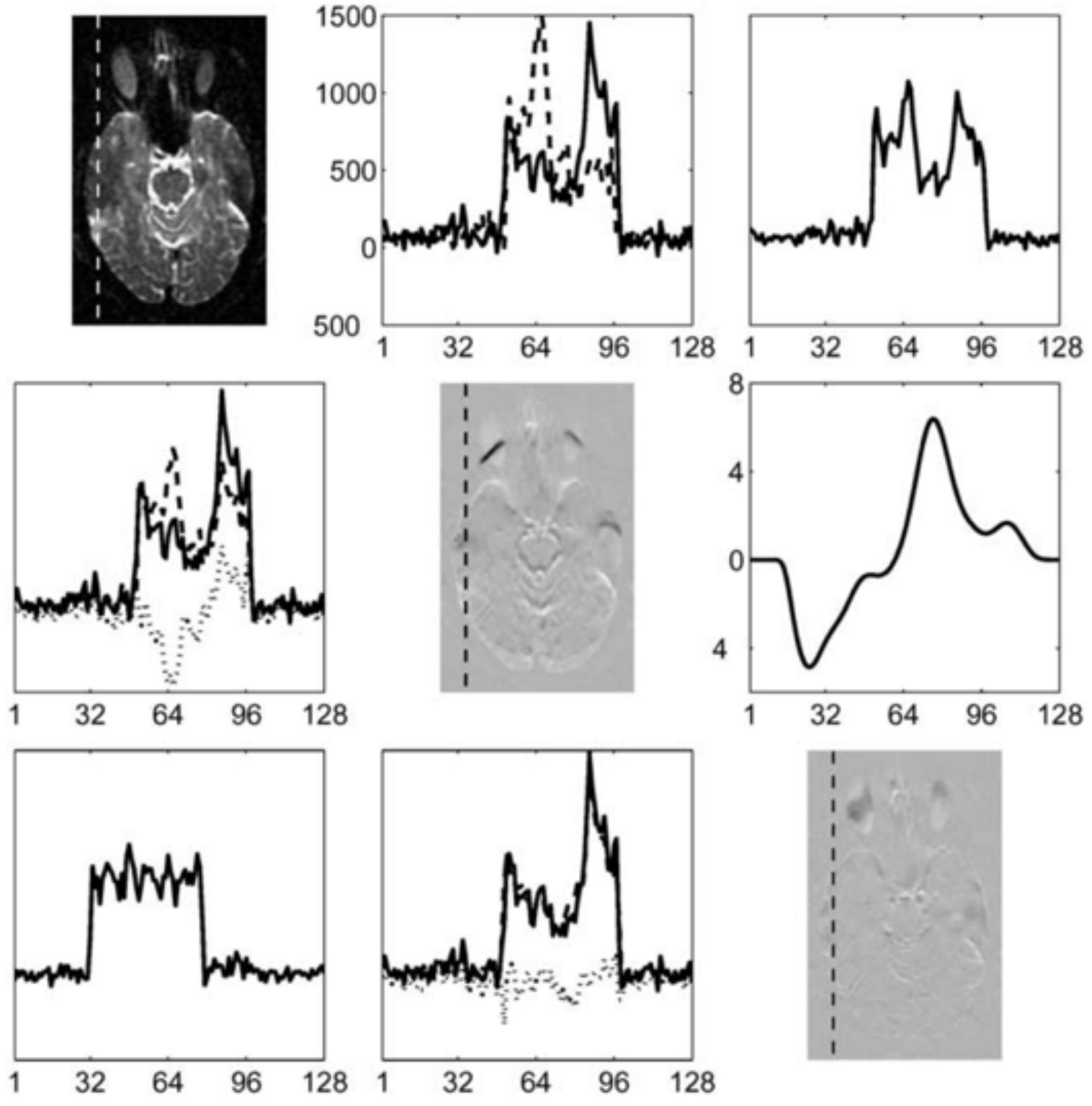
INVERSE FOR SURE

$$\underbrace{\begin{bmatrix}\widehat{\mathbf{e}_+}\\ \widehat{\mathbf{e}_+}\end{bmatrix}}_{2n\times 1} = \underbrace{\mathbf{R}(\mathbf{b})}_{2n\times 2n}\underbrace{\begin{bmatrix}\mathbf{f}_+\\ \mathbf{f}_-\end{bmatrix}}_{2n\times 1}$$

$$\underbrace{\mathbf{R}(\mathbf{b})}_{2n\times 2n} = \underbrace{\mathbf{I}}_{2n\times 2n} - \underbrace{\begin{bmatrix}\mathbf{K}_+(\mathbf{b})\\ \mathbf{K}_-(\mathbf{b})\end{bmatrix}}_{2n\times 1}$$

$$\times \underbrace{\left([\mathbf{K}_+^T(\mathbf{b}) \quad \mathbf{K}_-^T(\mathbf{b})]\begin{bmatrix}\mathbf{K}_+(\mathbf{b})\\ \mathbf{K}_-(\mathbf{b})\end{bmatrix}\right)^{-1}}_{n\times n}$$

$$\times \underbrace{[\mathbf{K}_+^T(\mathbf{b}) \quad \mathbf{K}_-^T(\mathbf{b})]}_{n\times 2n},$$



$$\min_{\arg=\mathbf{b}} O(\mathbf{b}) = \left(\sum_{c=1}^{m} [\mathbf{f}_{c+}^T \quad \mathbf{f}_{c-}^T]\mathbf{R}_c(\mathbf{b})\begin{bmatrix}\mathbf{f}_{c+}\\ \mathbf{f}_{c-}\end{bmatrix}\right)$$

JACOBIAN MODULATION

$$f_{+}(\mathbf{x} - [0 \quad d(\mathbf{x},\mathbf{b}) \quad 0]^{T})\left(1 - \left.\frac{\partial d}{\partial y}\right|_{\mathbf{x}}\right)$$
$$\approx f_{-}(\mathbf{x} + [0 \quad d(\mathbf{x},\mathbf{b}) \quad 0]^{T})\left(1 + \left.\frac{\partial d}{\partial y}\right|_{\mathbf{x}}\right)$$

$$\sum_{x \in V}\left(f_{+}(\mathbf{x} - [0 \quad d(\mathbf{x},\mathbf{b}) \quad 0]^{T})\left(1 - \left.\frac{\partial d}{\partial y}\right|_{\mathbf{x}}\right) - f_{-}(\mathbf{x} + [0 \quad d(\mathbf{x},\mathbf{b}) \quad 0]^{T})\left(1 + \left.\frac{\partial d}{\partial y}\right|_{\mathbf{x}}\right)\right)^{2}$$

$$\underbrace{\mathbf{B}(\mathbf{x})}_{n\times m} = \underbrace{\mathbf{B}_{z}(z)}_{n_z \times m_z} \otimes \underbrace{\mathbf{B}_{y}(y)}_{n_y \times m_y} \otimes \underbrace{\mathbf{B}_{x}(x)}_{n_x \times m_x}$$

$$\underbrace{\frac{d\mathbf{f}_{+}}{d\mathbf{b}}}_{n\times m} = -\underbrace{diag\left(\frac{\partial \mathbf{f}_{+}}{\partial y}\right)}_{n\times n}\underbrace{\mathbf{B}}_{n\times m} - \underbrace{diag(\mathbf{f}_{+})}_{n\times n}\underbrace{\frac{\partial \mathbf{B}}{\partial y}}_{n\times m}$$

$$\underbrace{\mathbf{b}_{i}}_{m\times 1} = \underbrace{\mathbf{b}_{i-1}}_{m\times 1} + \left(\underbrace{\left[\left(\frac{d\mathbf{f}_{+}}{d\mathbf{b}}\right)^{T} \quad \left(\frac{d\mathbf{f}_{-}}{d\mathbf{b}}\right)^{T}\right]}_{m\times 2n}\underbrace{\begin{bmatrix}\mathbf{I} & -\mathbf{I}\\ -\mathbf{I} & \mathbf{I}\end{bmatrix}}_{2n\times 2n}\underbrace{\begin{bmatrix}\frac{d\mathbf{f}_{+}}{d\mathbf{b}}\\ \frac{d\mathbf{f}_{-}}{d\mathbf{b}}\end{bmatrix}}_{2n\times m}\right)^{-1} \times \underbrace{\left[\left(\frac{d\mathbf{f}_{+}}{d\mathbf{b}}\right)^{T} \quad \left(\frac{d\mathbf{f}_{-}}{d\mathbf{b}}\right)^{T}\right]}_{m\times 2n}\underbrace{\begin{bmatrix}\mathbf{I} & -\mathbf{I}\\ -\mathbf{I} & \mathbf{I}\end{bmatrix}}_{2n\times 2n}\underbrace{\begin{bmatrix}\mathbf{f}_{+}\\ \mathbf{f}_{-}\end{bmatrix}}_{2n\times 1}$$