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MATVEC

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$$\begin{aligned}
 \begin{bmatrix} y_1 \\ y_2 \\ y_3 \end{bmatrix} &= \begin{bmatrix} x_1 & 0 & 0 \\ 0 & x_2 & 0 \\ 0 & 0 & x_3 \end{bmatrix} \begin{bmatrix} b_1 \\ b_2 \\ b_3 \end{bmatrix} + \begin{bmatrix} z_1 & 0 & 0 \\ 0 & z_2 & 0 \\ 0 & 0 & z_3 \end{bmatrix} \begin{bmatrix} u_1 \\ u_2 \\ u_3 \end{bmatrix} + \begin{bmatrix} e_1 \\ e_2 \\ e_3 \end{bmatrix} & \text{MATVEC} & (\\
 &= y_3, y_2, y_1 & & (\\
 &= x_3, x_2, x_1 & & \\
 &= z_3, z_2, z_1 & & : \\
 &= b_3, b_2, b_1 & & Y_{ijkl} = \mu + HYS_i + Age_j + a_k + e_{ijkl} \\
 &= u_3, u_2, u_1 & & : \\
 &= e_3, e_2, e_1 & & = Y_{ijkl} \\
 & & & = \mu \quad i \\
 & & & = HYS_i \quad k \\
 & & & = Age_j \quad j \\
 & & & = e_{ijkl} \quad (j = (1,2,3)) & (\\
 & & & & (
 \end{aligned}$$

MATVEC

h^2	σ_p^2	σ_e^2	σ_a^2
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h^2	σ_p^2	σ_e^2	σ_a^2

h^2	σ_p^2	σ_e^2	σ_a^2

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