

<i>Initial projected residual</i>	$\lambda_0 = \lambda_0 + \mathbf{P}\lambda_{00}$
<i>Initial projected residual</i>	$\mathbf{r}_0 = \mathbf{P}^T(\mathbf{d} - \mathbf{F}\lambda_0)$
<i>???</i>	$\mathbf{Z}_0 = \mathbf{S} \left[\dots, \mathbf{B}^{(s)}(\mathbf{d}^{(s)} - \mathbf{F}^{(s)}\mathbf{B}^{(s)T}\lambda_0), \dots \right]$
<i>Project Residual to natural coarsegrid</i>	$\mathbf{W}_0 = \mathbf{P}\mathbf{Z}_0$
<i>Initialize</i>	$\lambda_0 = 0, i = 0$
<i>While not converged</i>	$\sqrt{\mathbf{r}^T \mathbf{Z} \mathbf{1}} > \epsilon$
<i>Project search direction to coarse grid</i>	$\mathbf{Q}_i = \mathbf{F}\mathbf{W}_i$
<i>What does that step do???</i>	$\Delta_i = \mathbf{Q}_i^T \mathbf{W}_i$
<i>What does that step do???</i>	$\gamma_i = \mathbf{r}_i^T \mathbf{Z}_i$
<i>???</i>	$\lambda_{i+1} = \lambda_i + \mathbf{W}_i \Delta_i^+ \gamma_i$
<i>Update residual</i>	$\mathbf{r}_{i+1} = \mathbf{r}_i - \mathbf{P}^T \mathbf{Q}_i \Delta_i^+ \gamma_i$
<i>Precondition Residual</i>	$\mathbf{Z}_{i+1} = \mathbf{S}\mathbf{P}^T \mathbf{Q}_i$
<i>Project to ???</i>	$\mathbf{W}_{i+1} = \mathbf{P}\mathbf{Z}_{i+1}$
<i>Loop over previous iterations</i>	for: $0 \leq j \leq i$
<i>Compute ???</i>	$\phi_{i,j} = \mathbf{Q}_j^T \mathbf{W}_{i+1}$
<i>Orthogonalize new direction</i>	$\mathbf{W}_{i+1} \leftarrow \mathbf{W}_{i+1} - \mathbf{W}_j \Delta_j^+ \phi_{i,j}$
<i>Increase iteration counter</i>	$i \leftarrow i + 1$
<i>Compute total interface forces</i>	$\lambda = \lambda_i$