

Solve Phase

$$A^k u^k = f^k$$
$$f^{k+1} = I_k^{k+1} (f^k - A^k u^k)$$

Restriction

$$A^k u^k = f^k$$
$$u^k \leftarrow u^k + I_{k+1}^k u^{k+1}$$

Interpolation

$$A^{k+1} u^{k+1} = f^{k+1}$$
$$f^{k+2} = I_{k+1}^{k+2} (f^{k+1} - A^{k+1} u^{k+1})$$

$$A^{k+1} u^{k+1} = f^{k+1}$$
$$u^{k+1} \leftarrow u^{k+1} + I_{k+2}^{k+1} u^{k+2}$$

Restriction

Interpolation

...

$$A^M u^M = f^M$$

Direct Solver

