$$\nabla J = \nabla P + \nabla E$$

$$\begin{array}{c} \text{ADJ} \\ \downarrow \\ \nabla J \\ \downarrow \\ \underline{v} \rightarrow \end{array}$$

$\nabla E$ :

$v \mapsto \nabla E(\underline{v})$ easy

$\nabla P$ :

$$\langle \nabla P(\underline{v}) \mid \cdot \rangle =$$

$$= \int_{G_0} \frac{\partial \underline{q}^{+}}{\partial v}(\underline{v}) \cdot (\cdot)\, dG_0$$

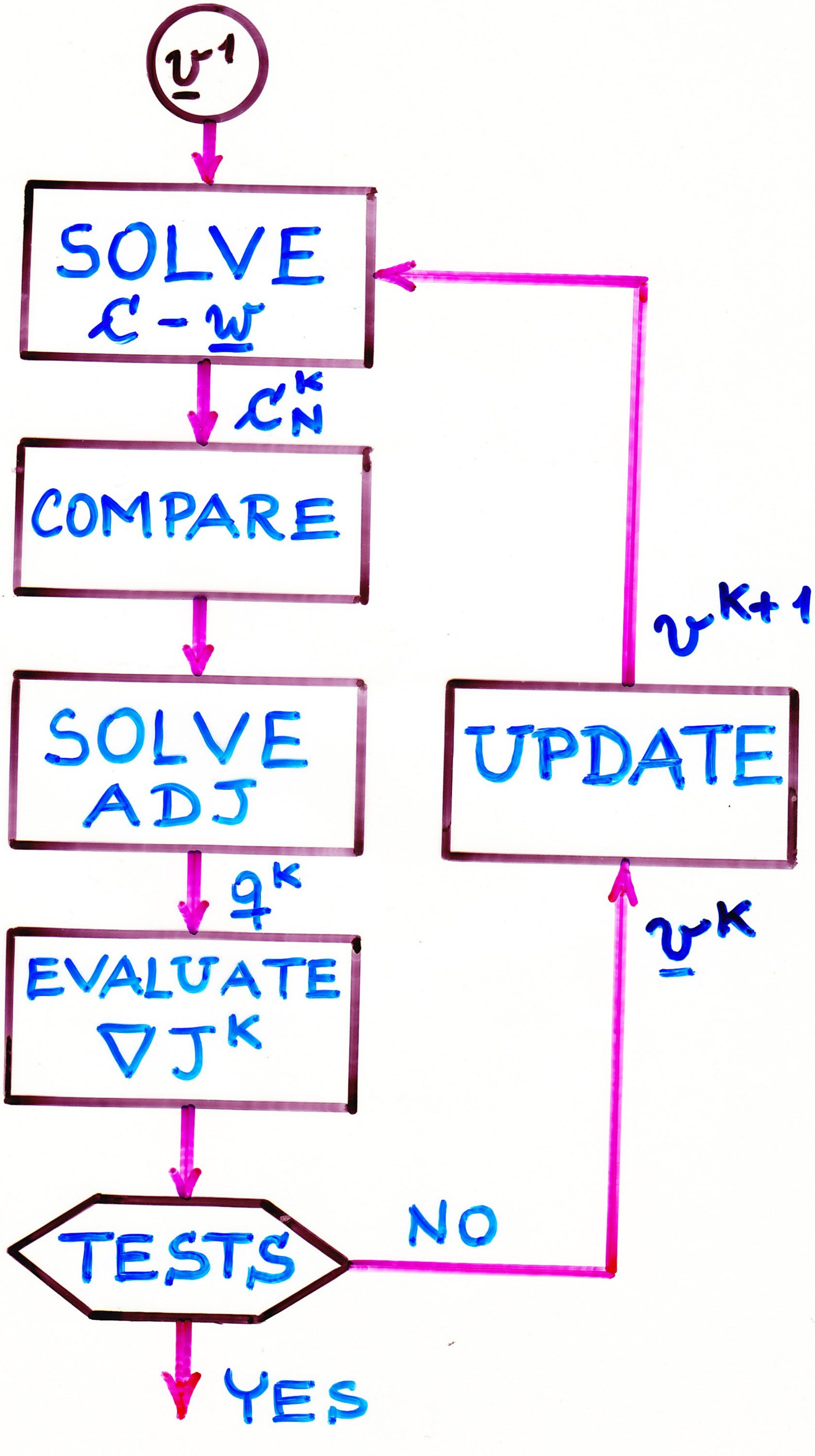
Hence minimising elements $\underline{v}^m$ satisfy:

$$2 \cdot \mathrm{Re}\Big[ \int_{G_0} \partial_v \underline{q}^{+}(\underline{v}) \cdot (\underline{v} - \underline{v}^m)\, dG_0 + \\ + \langle \nabla E(\underline{v}) \mid \underline{v} - \underline{v}^m \rangle \Big] \geq 0$$

$\forall\, \underline{v} \in U_{ad}$ s.t. $\| \underline{v} - \underline{v}^m \| \leq a_m$

How to find $\underline{v}^m$ by an iterative procedure?

# ALGORITHM


$\underline{v}^1$
SOLVE
$\mathcal{C} - \underline{w}$
$\mathcal{C}_N^K$
COMPARE
SOLVE
ADJ
$q^K$
EVALUATE
$\nabla J^K$
TESTS
NO
YES
UPDATE
$v^{K+1}$
$\underline{v}^K$