

procedure Conjugate Gradient

Guess Initial μ

$$r = E - \tilde{T}\mu$$

$$p = Mr$$

while not converged **do**

$$\gamma \leftarrow rMr / p\tilde{T}p$$

$$\mu \leftarrow \mu + \gamma p$$

$$r_1 \leftarrow r - \gamma\tilde{T}p$$

$$\beta \leftarrow r_1Mr_1 / rMr \text{ (Previous } r \text{ is used.)}$$

$$p \leftarrow Mr_1 + \beta p$$

Check Convergence

end while

end procedure