1.02x1 + 0.98x2 = 2

0.98x1 + 1.02x2 = 2

NS1: x1 = 1.02, x2 = 1.02

NS2: x1 = 2, x2 = 0

TS: x1 = 1, x2 = 1

true error:

[e] = [xTS] - [xNS]

residual error:

[r] = [a][xTS] - [a][xNS] = [b] - [a][xNS]

[e] = [a]-1[r]

[a] = |1.02 0.98|

|0.98 1.02|

[b] = |2|

|2|

[xNS] = |1.02|

|1.02|

[xTS] = |1|

|1|

[r] = |2| - |1.02 0.98| |1.02| = |2| - |2.04| = |-0.04|

|2| |0.98 1.02| |1.02| |2| |2.04| = |-0.04|

D(a) = (1.02)(1.02) - (0.98)(0.98) = 0.08

Dx1(a) = |2 0.98| = 2(0.98) - 2(1.02) = 1.96 - 2.04 = -0.08

|2 1.02|

Dx2(a) = |1.02 2| = 2.04 - 1.96 = 0.08

|0.98 2|

x1 = Dx1 = -0.08 = -1

D 0.08

x2 = Dx2 = 0.08 = 1

D 0.08

[e] = |-0.02| = |12.75 -12.25| |-0.04| =

|-0.02| = |-12.25 12.75| |-0.04|