

# abc\_to\_alphabeta\_1.xbe

## Attributes

```
xbe name=abc_to_alphabeta_1 evaluate=yes
Jacobian: constant
input_vars: a b c
output_vars: alpha beta
aux_vars:
iparms:
sparms:
rparms:
stparms:
igparms:
outparms: a b c alpha beta
```

## Description

abc\_to\_alphabeta\_1.xbe employs the following equations to relate a, b, c to alpha, beta:

$$\begin{bmatrix} \alpha \\ \beta \end{bmatrix} = \begin{bmatrix} \frac{2}{3} & -\frac{1}{3} & -\frac{1}{3} \\ 0 & \frac{1}{\sqrt{3}} & -\frac{1}{\sqrt{3}} \end{bmatrix} \begin{bmatrix} a \\ b \\ c \end{bmatrix}.$$

a, b, c, alpha, beta are made available as output variables.