

## abc\_to\_theta.xce

### Attributes

main\_vars: a b c alpha beta cost sint

### Description

abc\_to\_theta.xce employs the following equations to relate the variables a, b, c to cost, sint, alpha, beta:

$$\begin{aligned}\alpha &= \frac{2}{3}a - \frac{1}{3}(b + c), \\ \beta &= -\frac{1}{\sqrt{3}}(b - c), \\ v_m &= \sqrt{\alpha^2 + \beta^2}, \\ \cos t &= \alpha/v_m, \\ \sin t &= \beta/v_m.\end{aligned}$$

AC behaviour is not implemented.