

## dq\_to\_abc\_2.xbe

### Attributes

```
xbe name=dq_to_abc_2 evaluate=yes
Jacobian: variable
input_vars: xd xq theta
output_vars: xa xb xc
aux_vars: c s
iparms:
sparms:
rparms:
stparms:
igparms:
outparms: xd xq xa xb xc
```

### Description

dq\_to\_abc\_2.xbe employs the following equations to relate xd, xq, theta to xa, xb, xc:

$$\begin{bmatrix} x_a \\ x_b \\ x_c \end{bmatrix} = \begin{bmatrix} \cos \theta & -\sin \theta \\ \cos (\theta - 2\pi/3) & -\sin (\theta - 2\pi/3) \\ \cos (\theta + 2\pi/3) & -\sin (\theta + 2\pi/3) \end{bmatrix} \begin{bmatrix} x_d \\ x_q \end{bmatrix}.$$