dq_to_abc.xbe

Attributes

```
xbe name=dq_to_abc evaluate=yes
Jacobian: variable
input_vars: d q cost sint
output_vars: a b c
aux_vars: alpha beta
iparms:
sparms:
rparms:
stparms:
igparms:
outparms: d q a b c
```

Description

dq_to_abc.xbe employs the following equations to relate d, q, cost, sint to a, b, c:

$$
\begin{aligned}
\alpha &= d \cos t - q \sin t, \\
\beta &= d \sin t + q \cos t, \\
a &= \frac{2}{3}\alpha, \\
b &= -\frac{1}{3}\alpha + \frac{1}{\sqrt{3}}\beta, \\
c &= -\frac{1}{3}\alpha - \frac{1}{\sqrt{3}}\beta.
\end{aligned}
$$