abc_to_dq_2.xbe

Attributes

```
xbe name=abc_to_dq_2 evaluate=yes
Jacobian: variable
input_vars: a b c cost sint
output_vars: d q
aux_vars: alpha beta
iparms:
sparms:
rparms:
stparms:
igparms:
outparms: a b c d q
```

Description

abc_to_dq_2.xbe employs the following equations to relate a, b, c, cost, sint to d, q:

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