

p11_2.gce

Attributes

```
mainvars: u v w s c alpha beta d q omega
auxvars: y1 picin
rparms: f0=50 kp=1.0 ki=1.0
```

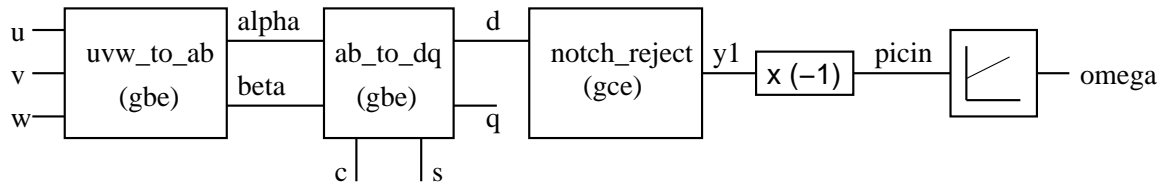


Figure 1: Implementation of p11_2.gce

Description

p11_2.gce is a phase-locked loop implemented as shown in the figure. The real parameter **f0** is passed on to **notch_reject.gce**, and **kp** and **ki** to **picntrl.gce**. The equations that relate the variables are as follows.

$$\begin{aligned}\alpha &= u, \\ \beta &= \frac{1}{\sqrt{3}}(w - v), \\ q &= c\alpha - s\beta, \\ d &= s\alpha + c\beta.\end{aligned}$$

AC behaviour is not implemented.