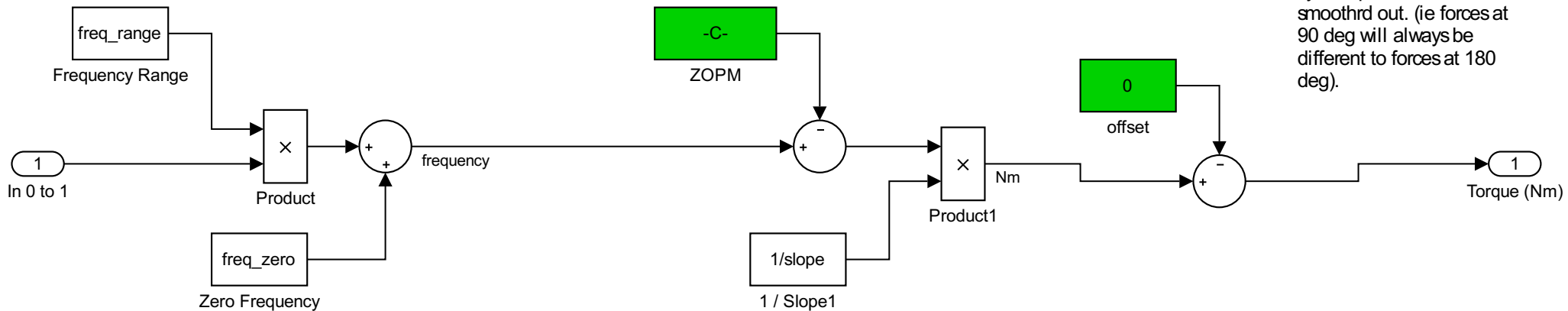# SRM Frequency to Voltage

This system reads in a 0 to 1 voltage
from an AD card that comes from a
frequency to voltage converter. The
frequency signal comes from the SRM
sensor meter. In order to work out the
torque on the sensor the process has
to be reversed. Thus the voltage has
to be converted back into a frequency
and then back into a torque.

Convert frequency to Torque (Nm)

The data for this can be gained
from the SRM sensot itself. The
ZOPM (Zero Offset of the Power
Meter) is calculated and displayed
by the SRM meter. Please check
the SRM manual for details. The
'Slope' value can be read from the
back of the SRM sensor.

The final signal is filtered.
This may have a relatively
large rise time so that
cyclinc pedal forces are
smoothrd out. (ie forces at
90 deg will always be
different to forces at 180
deg).

freq_range

Frequency Range

-C-

ZOPM

0

offset

1

In 0 to 1

×

Product

+
+

frequency

−
+

×

Product1

Nm

−
+

1

Torque (Nm)

freq_zero

Zero Frequency

1/slope

1 / Slope1

Convert signal to frequency

The frequency to voltage converter
was designed (at Glasgow by
Gordon) such that 0 volts = 300 Hz
and 5 volts = 1000 Hz. The
mapping is linear.