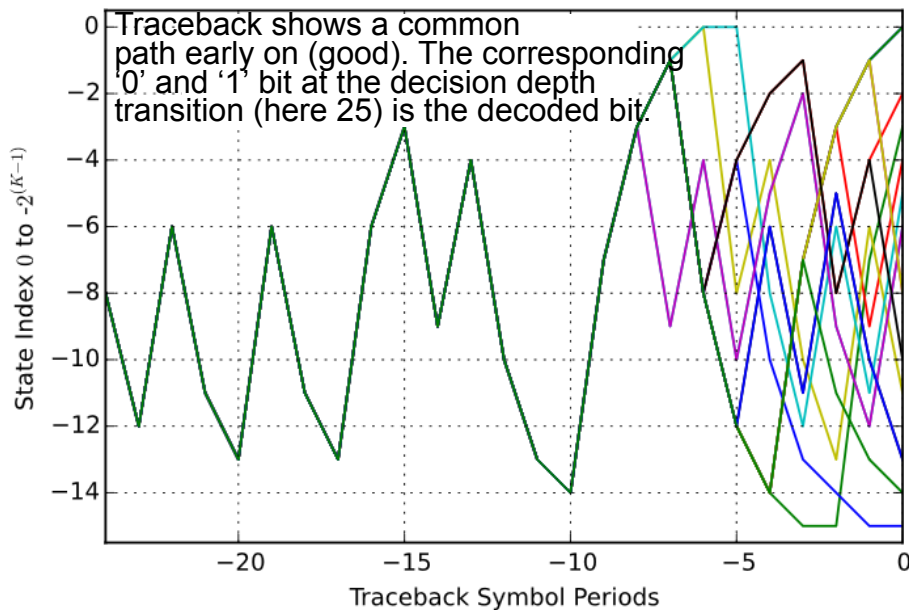## High SNR Traceback Plot

```
cc1 = fec.fec_conv(('10011', '11101'), 25)
EbN0 = 7
# Create 1000 random 0/1 bits
x = randint(0, 2, 1000)
# Encode with shift register starting state of '0000'
state = '0000'
y, state = cc1.conv_encoder(x, state)
# Add channel noise to bits translated to +1/-1
yn = dc.cpx_AWGN(2*y-1, EbN0-3, 1)   # Channel SNR is dB less
# Translate noisy +1/-1 bits to soft values on [0, 7]
yn = (yn.real+1)/2*7
z = cc1.viterbi_decoder(yn)
# Look at the traceback in the VA trellis
cc1.traceback_plot()
```


Survivor Paths Traced Back From All 16 States

Traceback shows a common path early on (good). The corresponding '0' and '1' bit at the decision depth transition (here 25) is the decoded bit.

Traceback paths correspond to the minimum cumulative metric from each of the 16 trellis states