Continuous rate encoding:

Spike generation (Poisson):

Modal encoding:

The two-mode case:

With tuning curve and spike count observation distribution in each mode. The second term reflects the baseline spikes from GS, the first term the spikes added from AS.

As a first approximation, can be taken to be observations from a Poisson process with given rate , and . It may be then convenient to simplify (though this needs some work to actually be convenient…)

For a circular variable , we can take as a circular gaussian with peak of width k centered around x0