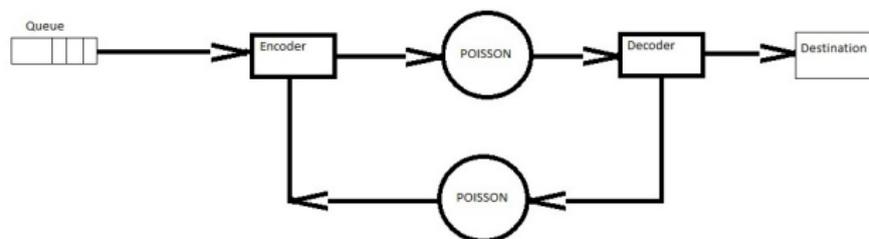


Neuronal Feedback Reliability



We use a four stage coding scheme over the Poisson channel with Poisson feedback.

Using this scheme we find the reliability function to be:

$$E_{feedback}(\bar{R}) \geq \left(\frac{1}{\epsilon A_2} + \frac{2}{A_3} \right)^{-1} \left(1 - \frac{\bar{R}}{R_1} \right)$$

where ϵA_2 is the average power used on one of the feedback stages and A_3 represents the power constraint on the forward Poisson channel. \bar{R} is the average rate of data communication of the scheme and R_1 is the rate of communication on the forward channel.