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Edith Magana and **Kaitlyn Phillipson***, kphillip@stedwards.edu. *Classifying neural codes as closed or open convex*. Preliminary report.

Neural codes are a way of representing neural activity. It has been observed experimentally that certain neurons, called place cells, fire in specific, convex regions in the stimulus space, creating a map of the environment for the organism. One of the questions in mathematical neuroscience is: Given a neural code, how can we determine if it can represent convex regions in space? The answer to this question can depend on whether we are utilizing open or closed convex sets. In this talk, we will discuss the question of classifying neural codes as open or closed convex, and which codes can be built minimally from the simplicial complex of the code. (Received September 20, 2021)