1154-37-1612 **Jane M. Hawkins*** (jmh@math.unc.edu), Mathematics Dept, CB #3250, UNC at Chapel Hill, Chapel Hill, NC 27599. *An application of entropy to genomics.* Preliminary report.

The entropy of a dynamical system is a measure of its complexity, which in turn reflects how its evolution over time seems to exhibit randomness. A recent application is to use entropy to help classify and understand the evolution of some common viruses. The papilloma virus (PV) infects animals from birds, rabbits and cats to cattle, horses and humans, and while all types have some negative health effects, only a few are deadly. We discuss how entropy helps to solve the huge classification problem for PVs to better understand their evolution, with a view to eradicating the worst types. (Received September 16, 2019)