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Christine A Kelley* (ckelley2@unl.edu) and **Michelle Haver**. *Applications of finite geometries in coding theory.*

Codes based on finite geometries have a rich structure that lends them to many applications. One notable class is the class of finite geometry low-density parity-check (FG-LDPC) codes, in which the incidence matrix of the geometry may be used as the parity-check matrix of the code. In this talk we highlight some of the important known results of these finite geometry codes. We will then present some new results on codes obtained by lifts of finite geometry incidence graphs, and how the resulting codes can be used in a variety of applications, including distributed storage. (Received September 15, 2020)