

1161-57-81

Colin Adams* (cadams@williams.edu), Bascom Hall, Williams College, 33 Stetson Ct., Williamstown, MA 01267, and **Judah Devadoss, Mohamed Elhamdadi and Alireza Mashaghi.** *Gauss Codes, Quandles and Bondles for Proteins.*

Proteins are linear molecules which when considered as such, make topology irrelevant. However, if intra-chain bonds are included, a rich structure ensues. We discuss representations of bonded proteins in terms of Gauss codes. Then we explore the possibility of applying the algebraic structure of quandles to distinguish the topologies of proteins. Because of the presence of bonds, we extend the theory to define bondles, a type of quandle particularly adapted to distinguishing the topological types of bonded proteins. (Received August 10, 2020)