

1122-20-105

Christopher P French* (frenchc@grinnell.edu), Noyce Science Center, 1116 8th Ave,
Grinnell, IA 50112. *Noncommutative association schemes of rank 6 with affine subschemes.*

Since finite noncommutative association schemes must have rank at least six, it is natural to seek examples with rank exactly six. One method for conducting such a search is to impose some extra conditions, like requiring the existence of a symmetric subscheme of rank three. If one adds two other simplifying conditions, one finds that such a subscheme must correspond to a self-complementary strongly regular graph whose automorphism group acts transitively on the vertex set. Recently, Klin, Kriger, and Woldar demonstrated that one can obtain numerous examples of such graphs using the theory of affine schemes. In this talk, we consider these examples to see if they can be used to construct new noncommutative schemes of rank six. (Received August 10, 2016)