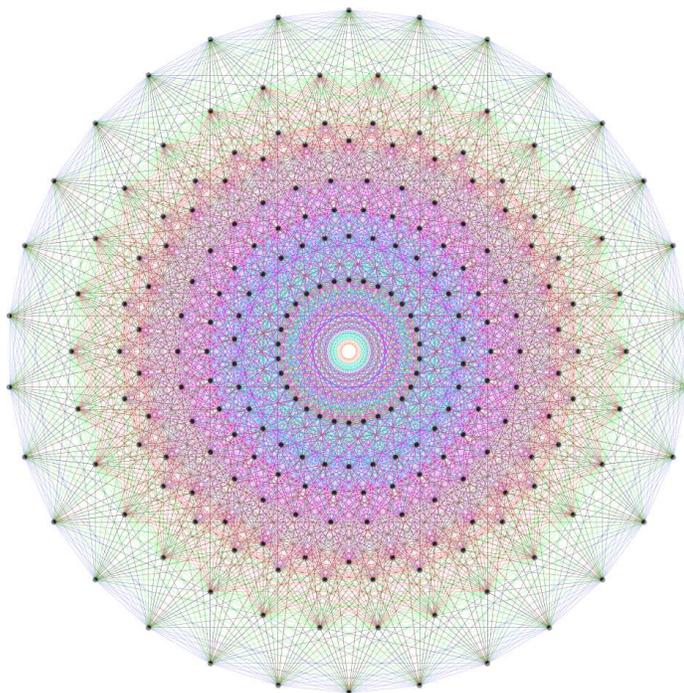


Arizona State University  
MAT 591, Spring 2021, Fridays 3-4  
Instructor: Julien Paupert

## Topics: Lie groups and Lie algebras



**Course description:** This class will be an introduction to Lie groups and Lie algebras at the graduate level. The format will be like a seminar or reading course, with students taking turns lecturing following Kirillov's lecture notes (see below).

**Prerequisites:** The same as for admission to the Math PhD program, namely advanced calculus/introduction to analysis (MAT 371 or equivalent) and linear algebra (MAT 342 or equivalent). Some familiarity with groups and smooth manifolds is preferable but not required. Please contact me at paupert@asu.edu if you are interested in the course or have any questions.

**Topics:** General theory of Lie groups and the associated Lie algebras, root systems and classification of complex semisimple Lie algebras (roughly chapters 2,3,6 and 7 in Kirillov's notes).

**Reference:** Alexander Kirillov; Introduction to Lie groups and Lie algebras, available at: <https://www.math.stonybrook.edu/~kirillov/liegroups/liegroups.pdf>