Maxime Bergeron\*, mbergeron@math.uchicago.edu. The topology, geometry and arithmetic of representation varieties. Preliminary report.

Let  $\Gamma$  be a finitely generated group and let G be a complex reductive algebraic group defined over the integers. I will discuss the topology of the space or representations  $Hom(\Gamma, G)$  and ask questions about its relationship to the arithmetic of the underlying variety. (Received September 24, 2018)