Diophantine study of Stokes matrices

Abstract:
Stokes matrices (i.e. unipotent upper triangular matrices) and their nonlinear braid group actions arise naturally in a number of geometric and algebraic contexts. Integral Stokes matrices are often of particular interest, motivating their reduction theory. After reviewing classical work of Markoff treating the case of 3-by-3 matrices, we describe joint work with Yu-Wei Fan for the 4-by-4 case by establishing an exceptional connection to SL2-character varieties of surfaces. This will also serve as an opportunity to present our recent work on effective finite generation of integral points on the latter moduli spaces. Time permitting, we finish by presenting new results (and problems) for Stokes matrices of larger dimension.

Monday, November 15, 2021
2:00 PM
Meeting ID: 939 5383 2894 Password: structures