



THE WEIZMANN INSTITUTE OF SCIENCE  
FACULTY OF MATHEMATICS AND COMPUTER SCIENCE

Seminar in Geometry and Topology

Room 1 ,Ziskind Building  
on Tuesday, Apr 30, 2019  
at 16:15

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Hypergeometric Decompositions of Symmetric Quartic K3 Pencils

Abstract:

We will consider two different types of hypergeometric decompositions of special data associated to five pencils of quartic surfaces. We see that over the complex numbers, the middle cohomology of these five pencils yield hypergeometric Picard-Fuchs equations. Using these parameters, we then consider the same pencils over finite fields, decomposing their rational point counts using the finite-field hypergeometric functions with the same parameters as above. This is joint work with Charles Doran, Adriana Salerno, Steven Sperber, John Voight, and Ursula Whitcher.