

Dihedral Fourier Analysis of Symmetry Preference Data

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In this talk I will briefly review the notion of Fourier analysis over finite groups and emphasize the case of dihedral analysis and its applications in optics and molecular biology. The notion of experimental results indexed by symmetries will be discussed and illustrated with a study in symmetry preferences. The notions of symmetry orbits, symmetry invariants, arbitrariness resolution, as well as the determination of the orbit invariants as Fourier transforms will be discussed and statistically evaluated for particular cases. The experimental design and results to be discussed in the illustration are described in detail and available from the address below, or by clicking [here](http://symmetrystudies.blogspot.com/2011/02/connecting-symmetry-and-data-first-look.html).

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