Mathematics, Statistics, and Computer Science **@ UIC**

Statistics and Data Science Seminar

Symmetric Random Walks on Tetrahedra and Octahedra

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Abstract: We consider a symmetric random walk on the vertices of a tetrahedron or an octahedron. Starting from the origin, at each step the random walk moves to one of the vertices adjacent to the current vertex with equal probability. We find the distribution, or at least the mean and the variance, of the number of steps needed to (1) return to origin, (2) visit all vertices, and (3) return to origin after visiting all vertices. We also obtain the distributions of (i) the number of vertices visited before return to origin, (ii) the last vertex visited, and (iii) the number of vertices visited while returning to origin after visiting all vertices.

Wednesday, March 30 at 4:00 PM in SEO 636