1154-97-2777   **Boyan S. Kostadinov*** (`bkostadinov@citytech.cuny.edu`). *Exploring Linear Algebra Concepts Through the Lights Out Game Using SageMath.*

In this talk, we present a computational approach to exploring linear algebra concepts through the Lights Out game and its variants, using SageMath as the computational engine. More specifically, we provide concrete explorations for students to investigate these games, from simple exercises to open problems, suitable for student research projects. We showcase sample SageMath code for numerical explorations of Lights Out, which can supplement successful proof-writing by offering insight and building intuition for deeper mathematical understanding. (Received September 17, 2019)