Contribution ID: **3** Type: **not specified**

Review of Linear Algebra Applications in Some Recent Neutrino Experiments

Linear algebra has been widely used in physics analysis of high-energy experiments. In this talk, I am going to review some of its recent usage in detector signal processing, noise filtering, event reconstruction, and data unfolding. In particular, its connections to various numerical and analytical techniques including the Fast Fourier Transformation, the Compressed Sensing, and the biconjugate gradients stabilized method, will be discussed. Through many real world applications, we show the power of linear algebra in neutrino experiments.

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