Title: Quantum Computing with Equiangular Projections

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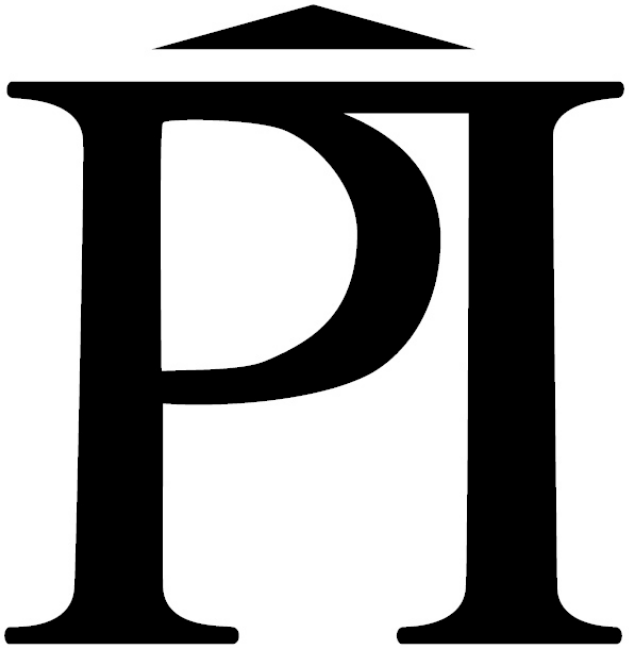
Abstract: We will investigate a common property of the measurements used in measurement-based quantum computing paradigms. We will show how this relates to the notion of equiangular planes. We will ask when a continuous collection of such planes can give a universal model. Surprisingly, in a sense that will be made precise, octonionic lines turn out to be the unique answer. This research is motivated by the challenge to construct a measurement-based model that exploits chemical protection given by the symmetries of certain molecules. A joint work with Michael Freedman and Zhenghan Wang.



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