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**Matvei Libine\*** ([mllibine@indiana.edu](mailto:mllibine@indiana.edu)). *Feynman Diagrams, Representations of  $U(2,2)$  and Quaternionic Analysis.*

Feynman diagrams are a pictorial way of describing integrals predicting possible outcomes of interactions of subatomic particles in the context of quantum field physics. It is highly desirable to have an intrinsic mathematical interpretation of Feynman diagrams.

In this talk I will describe the representation-theoretical meaning of certain Feynman diagrams. This is done in the context of representations of a Lie group  $U(2,2)$  and quaternionic analysis.

No prior knowledge of physics, Feynman diagrams or quaternionic analysis is assumed from the audience. (Received January 24, 2014)