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Abstracts of Short Communications and Posters

Section:

4. Algebraic Geometry

1991 MS Classification: 14
Katz, Sheldon, Oklahoma State University, USA
Geometric Engineering of Quantum Field Theories
Quantum field theories can be constructed using toric geometry. Physical matter contained in these quantum field theories can be read off easily from the geometry. The dictionary will be explained. As an application, characteristic features of Seiberg-Witten theory will be explained using toric geometry.
This talk is based on several joint works with A. Klemm, P. Mayr, and C. Vafa.
Reference: S. Katz, A. Klemm, and C. Vafa, Geometric engineering of quantum field theories, Nuclear Physics **B497** (1997) 173–195.