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Título: Vertex Operator Algebras And Related Areas

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Vertex operator algebras were introduced to mathematics in the work of Richard Borcherds, Igor Frenkel, James Lepowsky and Arne Meurman as a mathematically rigorous formulation of chiral algebras of two-dimensional conformal field theory. The aim was to use vertex operator algebras to explain and prove the remarkable Monstrous Moonshine conjectures in group theory. The theory of vertex operator algebras has now grown into a major research area in mathematics.

These proceedings contain expository lectures and research papers presented during the international conference on Vertex Operator Algebras and Related Areas, held at Illinois State University in Normal, IL, from July 7 to July 11, 2008.

The main aspects of this conference were connections and interactions of vertex operator algebras with the following areas: conformal field theories, quantum field theories, Hopf algebra, infinite dimensional Lie algebras, and modular forms. This book will be useful for researchers as well as for graduate students in mathematics and physics. Its purpose is not only to give an up-to-date overview of the fields covered by the conference but also to stimulate new directions and discoveries by experts in the areas.

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