



# FIELDS INSTITUTE MONOGRAPHS

THE FIELDS INSTITUTE FOR RESEARCH IN MATHEMATICAL SCIENCES

## Coloring Mixed Hypergraphs: Theory, Algorithms and Applications

Vitaly I. Voloshin



American Mathematical Society

# Color Mixed Hypergraphs

**Ronald L. Graham**



## **Color Mixed Hypergraphs:**

*Coloring Mixed Hypergraphs: Theory, Algorithms and Applications* Vitaly Ivanovich Voloshin, 2002 The theory of graph coloring has existed for more than 150 years Historically graph coloring involved finding the minimum number of colors to be assigned to the vertices so that adjacent vertices would have different colors From this modest beginning the theory has become central in discrete mathematics with many contemporary generalizations and applications Generalization of graph coloring type problems to mixed hypergraphs brings many new dimensions to the theory of colorings A main feature of this book is that in the case of hypergraphs there exist problems on both the minimum and the maximum number of colors This feature pervades the theory methods algorithms and applications of mixed hypergraph coloring The book has broad appeal It will be of interest to both pure and applied mathematicians particularly those in the areas of discrete mathematics combinatorial optimization operations research computer science software engineering molecular biology and related businesses and industries It also makes a nice supplementary text for courses in graph theory and discrete mathematics This is especially useful for students in combinatorics and optimization Since the area is new students will have the chance at this stage to obtain results that may become classic in the future

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*Mixed Hypergraphs and Other Coloring* Daniel Král', 2003

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*Bulletin of the Institute of Combinatorics and Its Applications*, 2003      **Forthcoming Books** Rose Arny, 2002      **Electrical & Electronics Abstracts**, 1997

*Graph-theoretic Concepts in Computer Science*, 2002      The British National Bibliography Arthur James Wells, 2002

**American Book Publishing Record**, 2002

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