

Contents

Knot Theoretic Structures

Preface: Knots, Graphs, Algebra and Combinatorics	v
The first coefficient of Homflypt and Kauffman polynomials: Vertigan proof of polynomial complexity using dynamic programming JÓZEF H. PRZYTICKI	1
Linear Alexander quandle colorings and the minimum number of colors MOHAMED ELHAMDADI and JEREMY KERR	7
Quandle identities and homology W. EDWIN CLARK and MASAHICO SAITO	23
Ribbonlength of folded ribbon unknots in the plane ELIZABETH DENNE, MARY KAMP, REBECCA TERRY, and XICHEN (CATHERINE) ZHU	37
Checkerboard framings and states of virtual link diagrams HEATHER A. DYE	53
Virtual covers of links II MICAH CHRISMAN and AARON KAESTNER	65

Spatial Graph Theory

Recent developments in spatial graph theory ERICA FLAPAN, THOMAS W. MATTMAN, BLAKE MELLOR, RAMIN NAIMI, and RYO NIKKUNI	81
Order nine MMIK graphs THOMAS W. MATTMAN, CHRIS MORRIS, and JODY RYKER	103
A chord graph constructed from a ribbon surface-link AKIO KAWAUCHI	125
The K_{n+5} and $K_{3^2,1^n}$ families and obstructions to n -apex THOMAS W. MATTMAN and MICHAEL PIERCE	137
Partially multiplicative biquandles and handlebody-knots ATSUSHI ISHII and SAM NELSON	159

Tangle insertion invariants for pseudoknots, singular knots, and rigid vertex spatial graphs	
ALLISON HENRICH and LOUIS H. KAUFFMAN	177