

Contents

| | |
|--------------------------------------------------------------------------------------------------------------------------------------------------|------|
| Preface | vii |
| List of Mini Courses at PASI 2009 | xi |
| List of Talks at PASI 2009 | xiii |
| PASI 2009 Photos | xv |
| Hilbert depth of powers of the maximal ideal WINFRIED BRUNS, CHRISTIAN KRATTENTHALER, and JAN ULICZKA | 1 |
| A note on reductions of monomial ideals in $k[x, y]_{(x, y)}$ C.-Y. JEAN CHAN and JUNG-CHEN LIU | 13 |
| Plücker-Clebsch formula in higher dimension CIRO CILIBERTO and VINCENZO DI GENNARO | 35 |
| Invariants of ideals generated by pfaffians EMANUELA DE NEGRI and ELISA GORLA | 47 |
| Hilbert polynomial and the intersection of ideals JUAN ELIAS and JORDI MARTÍNEZ-BORRUEL | 63 |
| Polynomial vector fields with algebraic trajectories VIVIANA FERRER and ISRAEL VAINSENER | 71 |
| Minimal free resolutions for certain affine monomial curves PHILIPPE GIMENEZ, INDRANATH SENGUPTA, and HEMA SRINIVASAN | 87 |
| Uniform bounds for Hilbert coefficients of parameters SHIRO GOTO and KAZUHO OZEKI | 97 |
| Absolute integral closure CRAIG HUNEKE | 119 |
| A property of the Frobenius map of a polynomial ring GENNADY LYUBEZNIK, WENLIANG ZHANG, and YI ZHANG | 137 |
| A note on the variety of pairs of matrices whose product is symmetric MAHDI MAJIDI-ZOLBANIN and BART SNAPP | 145 |
| Combinatorics of symbolic Rees algebras of edge ideals of clutters JOSÉ MARTÍNEZ-BERNAL, CARLOS RENTERÍA-MÁRQUEZ, and RAFAEL H. VILLARREAL | 151 |

| | |
|------------------------------------------------------------------------------------------|-----|
| Reconciling Riemann-Roch results PAUL ROBERTS and ANURAG K. SINGH | 165 |
| Hilbert functions of Cohen-Macaulay local rings MARIA EVELINA ROSSI | 173 |
| Some homological properties of almost Gorenstein rings JANET STRIULI and ADELA VRACIU | 201 |