

Preface

The theory of *higher matrix factorizations of a regular sequence* f_1, \dots, f_c presented in this book is an extension of the theory of matrix factorizations of an element in a commutative ring. It allows us to give a description of the eventual structure of minimal free resolutions over a complete intersection $R = S/(f_1, \dots, f_c)$ of arbitrary codimension c (where S is a regular local ring). We construct the minimal free resolutions of high R -syzygy modules, both over the regular local ring S and over the complete intersection ring R .

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August 2015

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Minimal Free Resolutions over Complete Intersections

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2016, X, 107 p., Softcover

ISBN: 978-3-319-26436-3