

[Classification of Higher Dimensional Algebraic Varieties](#)

Bearbeitet von
Christopher D Hacon, Sándor Kovács

1st Edition. 2010. Taschenbuch. 220 S. Paperback

ISBN 978 3 0346 0289 1

Format (B x L): 0 x 0 cm

Gewicht: 381 g

[Weitere Fachgebiete > Mathematik > Mathematische Analysis > Variationsrechnung](#)

schnell und portofrei erhältlich bei


DIE FACHBUCHHANDLUNG

Die Online-Fachbuchhandlung beck-shop.de ist spezialisiert auf Fachbücher, insbesondere Recht, Steuern und Wirtschaft. Im Sortiment finden Sie alle Medien (Bücher, Zeitschriften, CDs, eBooks, etc.) aller Verlage. Ergänzt wird das Programm durch Services wie Neuerscheinungsdienst oder Zusammenstellungen von Büchern zu Sonderpreisen. Der Shop führt mehr als 8 Millionen Produkte.

Contents

I	Basics	1
1	INTRODUCTION	3
1.A.	CLASSIFICATION	3
2	PRELIMINARIES	17
2.A.	NOTATION	17
2.B.	DIVISORS	18
2.C.	REFLEXIVE SHEAVES	20
2.D.	CYCLIC COVERS	21
2.E.	$\mathbb{R}$ -DIVISORS IN THE RELATIVE SETTING	22
2.F.	FAMILIES AND BASE CHANGE	24
2.G.	PARAMETER SPACES AND DEFORMATIONS OF FAMILIES	25
3	SINGULARITIES	27
3.A.	CANONICAL SINGULARITIES	27

3.B. CONES	29
3.C. LOG CANONICAL SINGULARITIES	30
3.D. NORMAL CROSSINGS	32
3.E. PINCH POINTS	32
3.F. SEMI-LOG CANONICAL SINGULARITIES	34
3.G. PAIRS	36
3.H. VANISHING THEOREMS	39
3.I. RATIONAL AND DU BOIS SINGULARITIES	41

II Recent advances in the minimal model program 47

4 INTRODUCTION	49
5 THE MAIN RESULT	51
5.A. THE CONE AND BASEPOINT-FREE THEOREMS	51
5.B. FLIPS AND DIVISORIAL CONTRACTIONS	53
5.C. THE MINIMAL MODEL PROGRAM FOR SURFACES	58
5.D. THE MAIN THEOREM AND SKETCH OF PROOF	59
5.E. THE MINIMAL MODEL PROGRAM WITH SCALING	61
5.F. PL-FLIPS	62
5.G. COROLLARIES	63
6 MULTIPLIER IDEAL SHEAVES	67
6.A. ASYMPTOTIC MULTIPLIER IDEAL SHEAVES	70
6.B. EXTENDING PLURICANONICAL FORMS	73
7 FINITE GENERATION OF THE RESTRICTED ALGEBRA	79
7.A. RATIONALITY OF THE RESTRICTED ALGEBRA	79
7.B. PROOF OF (5.69)	80

8	LOG TERMINAL MODELS	83
8.A.	SPECIAL TERMINATION	83
8.B.	EXISTENCE OF LOG TERMINAL MODELS	85
9	NON-VANISHING	89
9.A.	NAKAYAMA-ZARISKI DECOMPOSITION	89
9.B.	NON-VANISHING	93
10	FINITENESS OF LOG TERMINAL MODELS	99
III	Compact moduli spaces of canonically polarized varieties	103
11	MODULI PROBLEMS	105
11.A.	REPRESENTING FUNCTORS	105
11.B.	MODULI FUNCTORS	105
11.C.	COARSE MODULI SPACES	108
12	HILBERT SCHEMES	111
12.A.	THE GRASSMANNIAN FUNCTOR	111
12.B.	THE HILBERT FUNCTOR	114
13	THE CONSTRUCTION OF THE MODULI SPACE	117
13.A.	BOUNDEDNESS	117
13.B.	CONSTRUCTING THE MODULI SPACE	123
13.C.	LOCAL CLOSEDNESS	124
13.D.	SEPARATEDNESS	126
13.E.	PROPERNESS	130

14	FAMILIES AND MODULI FUNCTORS	133
14.A.	AN IMPORTANT EXAMPLE	133
14.B.	$\mathbb{Q}$ -GORENSTEIN FAMILIES	135
14.C.	PROJECTIVE MODULI SCHEMES	139
14.D.	MODULI OF PAIRS AND OTHER GENERALIZATIONS	140
15	SINGULARITIES OF STABLE VARIETIES	141
15.A.	SINGULARITY CRITERIA	142
15.B.	APPLICATIONS TO MODULI SPACES AND VANISHING THEOREMS	144
15.C.	DEFORMATIONS OF DB SINGULARITIES	146
16	SUBVARIETIES OF MODULI SPACES	149
16.A.	SHAFAREVICH'S CONJECTURE	152
16.B.	THE PARSHIN-ARAKELOV REFORMULATION	152
16.C.	SHAFAREVICH'S CONJECTURE FOR NUMBER FIELDS	153
16.D.	FROM SHAFAREVICH TO MORDELL: PARSHIN'S TRICK	154
16.E.	HYPERBOLICITY AND BOUNDEDNESS	155
16.F.	HIGHER DIMENSIONAL FIBERS	158
16.G.	HIGHER DIMENSIONAL BASES	160
16.H.	UNIFORM AND EFFECTIVE BOUNDS	162
16.I.	TECHNIQUES	163
16.J.	ALLOWING MORE GENERAL FIBERS	166
16.K.	ITERATED KODAIRA-SPENCER MAPS AND STRONG NON-ISOTRIVIALITY	168
IV	Solutions and hints to some of the exercises	171
	BIBLIOGRAPHY	185
	INDEX	203