

1. Record Nr.	UNINA9910809577303321
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Titolo	Classifying spaces of degenerating polarized Hodge structures // Kazuya Kato and Sampei Usui
Pubbl/distr/stampa	Princeton, New Jersey ; ; Oxfordshire, England : , : Princeton University Press, , 2009 ©2009
ISBN	1-4008-3711-1 0-691-13822-2
Edizione	[Course Book]
Descrizione fisica	1 online resource (349 p.)
Collana	Annals of Mathematics Studies ; ; Number 169
Classificazione	SI 830
Disciplina	514/.74
Soggetti	Hodge theory Logarithms
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Frontmatter -- Contents -- Introduction -- Chapter 0. Overview -- Chapter 1. Spaces of Nilpotent Orbits and Spaces of Nilpotent i-Orbits -- Chapter 2. Logarithmic Hodge Structures -- Chapter 3. Strong Topology and Logarithmic Manifolds -- Chapter 4. Main Results -- Chapter 5. Fundamental Diagram -- Chapter 6. The Map :D#val DSL(2) -- Chapter 7. Proof of Theorem A -- Chapter 8. Proof of Theorem B -- Chapter 9. b-Spaces -- Chapter 10. Local Structures of DSL(2) and DbSL(2),1 -- Chapter 11. Moduli of PLH with Coefficients -- Chapter 12. Examples and Problems -- Appendix -- References -- List of Symbols -- Index
Sommario/riassunto	In 1970, Phillip Griffiths envisioned that points at infinity could be added to the classifying space D of polarized Hodge structures. In this book, Kazuya Kato and Sampei Usui realize this dream by creating a logarithmic Hodge theory. They use the logarithmic structures begun by Fontaine-Illusie to revive nilpotent orbits as a logarithmic Hodge structure. The book focuses on two principal topics. First, Kato and Usui construct the fine moduli space of polarized logarithmic Hodge structures with additional structures. Even for a Hermitian symmetric domain D, the present theory is a refinement of the toroidal compactifications by Mumford et al. For general D, fine moduli spaces

may have slits caused by Griffiths transversality at the boundary and be no longer locally compact. Second, Kato and Usui construct eight enlargements of D and describe their relations by a fundamental diagram, where four of these enlargements live in the Hodge theoretic area and the other four live in the algebra-group theoretic area. These two areas are connected by a continuous map given by the $SL(2)$ -orbit theorem of Cattani-Kaplan-Schmid. This diagram is used for the construction in the first topic.
