

1. Record Nr.	UNINA9910987694803321
Autore	Kasuya Naohiko
Titolo	Non-Kähler Complex Surfaces and Strongly Pseudoconcave Surfaces / / by Naohiko Kasuya
Pubbl/distr/stampa	Singapore : , : Springer Nature Singapore : , : Imprint : Springer, , 2025
ISBN	9789819630028 9819630029
Edizione	[1st ed. 2025.]
Descrizione fisica	1 online resource (X, 121 p. 16 illus., 5 illus. in color.)
Collana	SpringerBriefs in Mathematics, , 2191-8201
Disciplina	515.94
Soggetti	Functions of complex variables Topology Several Complex Variables and Analytic Spaces Fonctions de variables complexes Topologia Llibres electrònics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Chapter 1.Preliminaries -- Chapter 2. Compact Complex Surfaces -- Chapter 3. Elliptic Surfaces and Lefschetz Fibrations -- Chapter 4. Non- Kähler Complex Structures on \mathbb{R}^2 -- Chapter 5. Strongly Pseudoconvex Manifolds -- Chapter 6. Contact Structures -- Chapter 7. Strongly Pseudoconcave Surfaces and Their Boundaries.
Sommario/riassunto	The main themes of this book are non-Kähler complex surfaces and strongly pseudoconcave complex surfaces. Though there are several notable examples of compact non-Kähler surfaces, including Hopf surfaces, Kodaira surfaces, and Inoue surfaces, these subjects have been regarded as secondary to Kähler manifolds and strongly pseudoconvex manifolds. Recently, however, the existence of uncountably many non-Kähler complex structures on the 4- dimensional Euclidean space has been shown by Di Scala, Kasuya, and Zuddas through their construction. Furthermore, Kasuya and Zuddas' handlebody construction reveals that strongly pseudoconcave surfaces have flexibility with respect to both four-dimensional topology and boundary contact structures. These constructions are based on the

knowledge of differential topology and contact geometry, and provide examples of fruitful applications of these areas to complex geometry. Thus, for (especially non-compact) non-Kähler complex surfaces and strongly pseudoconcave complex surfaces, it is not an exaggeration to say that the research is still in its infancy, with numerous areas yet to be explored and expected to develop in the future.
