1.	Record Nr.	UNINA9910271051403321
	Autore	Ghilani Charles D.
	Titolo	Adjustment computations : spatial data analysis / / Charles D. Ghilani
	Pubbl/distr/stampa	Hoboken, New Jersey : , : Wiley, , 2018 ©2018
	ISBN	1-119-39061-3 1-5231-2338-9 1-119-39066-4 1-119-39031-1
	Edizione	[Sixth edition.]
	Descrizione fisica	1 online resource (1 volume) : illustrations
	Disciplina	526.9
	Soggetti	Surveying - Mathematics Spatial analysis (Statistics) Electronic books.
	Lingua di pubblicazione	Inglese
	Formato	Materiale a stampa
	Livello bibliografico	Monografia
	Nota di bibliografia	Includes bibliographical references and index.
	Nota di contenuto	Introduction -- Observations and their analysis -- Random error theory -- Confidence intervals -- Statistical testing -- Propagation of random errors in indirectly measured quantities -- Error propagation in angle and distance observations -- Error propagation in traverse surveys -- Error propagation in elevation determination -- Weights of observations -- Principles of least squares -- Adjustment of level nets -- Precisions of indirectly determined quantities -- Adjustment of horizontal surveys : trilateration -- Adjustment of horizontal surveys : triangulation -- Adjustment of horizontal surveys : traverses and horizontal networks -- Adjustment of GNSS networks -- Coordinate transformations -- Error ellipse -- Constraint equations -- Blunder detection in horizontal networks -- The general least squares method and its application to curve fitting and coordinate transformations -- Three-dimensional geodetic network adjustment -- Combining GNSS and terrestrial observations -- Analysis of adjustments -- Computer optimization.
	Sommario/riassunto	The definitive guide to bringing accuracy to measurement, updated and supplemented Adjustment Computations is the classic textbook for

spatial information analysis and adjustment computations, providing clear, easy-to-understand instruction backed by real-world practicality. From the basic terms and fundamentals of errors to specific adjustment computations and spatial information analysis, this book covers the methodologies and tools that bring accuracy to surveying, GNSS, GIS, and other spatial technologies. Broad in scope yet rich in detail, the discussion avoids overly-complex theory in favor of practical techniques for students and professionals. This new sixth edition has been updated to align with the latest developments in this rapidly expanding field, and includes new video lessons and updated problems, including worked problems in STATS, MATRIX, ADJUST, and MathCAD. All measurement produces some amount of error; whether from human mistakes, instrumentation inaccuracy, or environmental features, these errors must be accounted and adjusted for when accuracy is critical. This book describes how errors are identified, analyzed, measured, and corrected, with a focus on least squares adjustment—the most rigorous methodology available. Apply industry-standard methodologies to error analysis and adjustment Translate your skills to the real-world with instruction focused on the practical Master the fundamentals as well as specific computations and analysis Strengthen your understanding of critical topics on the Fundamentals in Surveying Licensing Exam As spatial technologies expand in both use and capability, so does our need for professionals who understand how to check and adjust for errors in spatial data. Conceptual knowledge is one thing, but practical skills are what counts when accuracy is at stake; Adjustment Computations provides the real-world training you need to identify, analyze, and correct for potentially crucial errors.