1. Record Nr. UNINA9910337637203321 Autore Crosilla Fabio Titolo Advanced Procrustes Analysis Models in Photogrammetric Computer Vision / / by Fabio Crosilla, Alberto Beinat, Andrea Fusiello, Eleonora Maset, Domenico Visintini Cham:,: Springer International Publishing:,: Imprint: Springer,, Pubbl/distr/stampa 2019 3-030-11760-X **ISBN** Edizione [1st ed. 2019.] Descrizione fisica 1 online resource (174 pages) Collana CISM International Centre for Mechanical Sciences, Courses and Lectures, , 2309-3706; ; 590 Disciplina 526.982 Soggetti Geographic information systems Computer vision Geographical Information System Computer Vision Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Nota di contenuto Theory of procrustes analysis models -- An introduction to computer vision and laser scanning -- Applications of procrustes analysis Sommario/riassunto This book gives a comprehensive view of the developed procrustes models, including the isotropic, the generalized and the anisotropic variants. These represent original tools to perform, among others, the bundle block adjustment and the global registration of multiple 3D LiDAR point clouds. Moreover, the book also reports the recently derived total least squares solution of the anisotropic Procrustes model, together with its practical application in solving the exterior orientation of one image. The book is aimed at all those interested in discovering valuable innovative algorithms for solving various photogrammetric

computer vision problems. In this context, where functional models are non-linear, Procrustean methods prove to be powerful since they do not require any linearization nor approximated values of the unknown parameters, furnishing at the same time results comparable in terms of

accuracy with those given by the state-of-the-art methods.