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Titolo	Spatio-Temporal Image Processing [[electronic resource]] : Theory and Scientific Applications / / by Bernd Jähne
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Collana	Lecture Notes in Computer Science, , 0302-9743 ; ; 751
Disciplina	551.47/00285/642
Soggetti	Signal processing Image processing Speech processing systems Optical data processing Environmental sciences Earth sciences Pattern recognition Computational complexity Signal, Image and Speech Processing Image Processing and Computer Vision Environmental Science and Engineering Earth Sciences, general Pattern Recognition Complexity
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Nota di contenuto	and overview -- Image sequence acquisition -- Kinematics and dynamics of motion -- Motion in space-time images -- Fourier transform methods -- Differential methods -- Quadrature filter set methods -- Tensor methods -- Correlation methods -- Phase methods -- Implementation -- Experimental results.
Sommario/riassunto	Image sequence processing is becoming a tremendous tool to analyze spatio-temporal data in all areas of natural science. It is the key to studythe dynamics of of complex scientific phenomena. Methods from

computer science and the field of application are merged establishing new interdisciplinary research areas. This monograph emerged from scientific applications and thus is an example for such an interdisciplinaryapproach. It is addressed both to computer scientists and to researchers from other fields who are applying methods of computer vision. The results presented are mostly from environmental physics (oceanography) but they will be illuminating and helpful for researchers applying similar methods in other areas.