



HAL
open science

Change detection in remote sensing observations

Grégoire Mercier, Stéphane Derrode, Emmanuel Trouvé, Lionel Bombrun

► **To cite this version:**

Grégoire Mercier, Stéphane Derrode, Emmanuel Trouvé, Lionel Bombrun. Change detection in remote sensing observations. J. Chanussot, Ch. Collet and K. Chehdi. Multivariate Image Processing: Methods and Applications, ISTE Ltd and John Wiley & Sons Inc, pp. 95-142, 2010, Digital Signal and Image Processing Series. hal-00437081

HAL Id: hal-00437081

<https://hal.science/hal-00437081v1>

Submitted on 29 Nov 2009

HAL is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.

Chapter 1

Change detection in remote sensing observation

The aim of this chapter is to draw an overview of change detection techniques in remote sensing earth observation. In remote sensing application, a change may be considered to as an alteration of the surface components. But temporal analysis of remote sensing image is facing several difficulties, among them the large amount of data to be processed and also the very few number of temporal observations. Despite the lack of temporal model, the natural evolution of landscape and the evolution induced by the sensors, many valuable techniques exist that perform change detection from two or more images acquired from the same or from different sensors.

This overview has been drawn from the CACHANT initiative supported by the GdR ISIS in 2006 and the presentation that have been given during the two meetings¹.

Chapter written by G. Mercier, S. Derrode, E. Trouvé, with the collaboration of CACHANT meeting authors.

1. CACHANT: *Cartographie Automatique des Changements Naturels par Télédétection* <http://gdr-isis.org/cachant>.