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Virtual Changing Globe for Visualisation and Analysis

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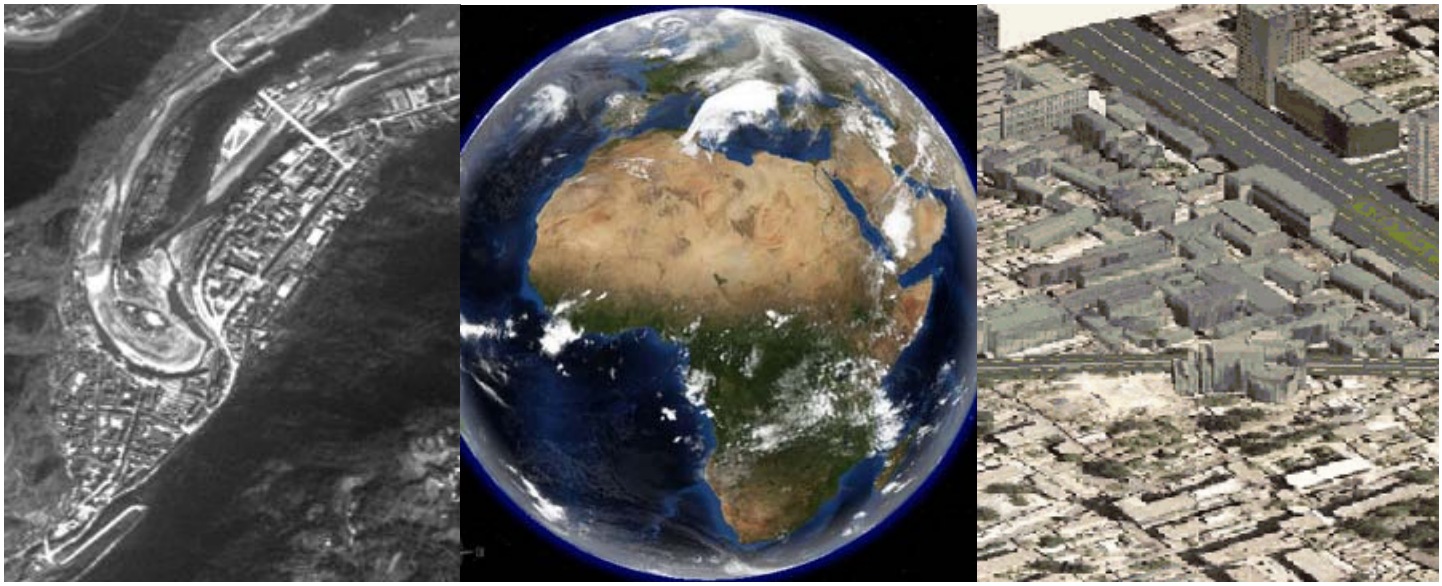

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Introduction

The term virtual globe is being used frequently to refer to a virtual and digital global environment enabled by advanced information technologies. It is capable of letting users freely fly anywhere on a virtual Earth, with different views of Earth such as satellite imagery, geographical features, terrain, 3D buildings, and advanced stars, atmosphere or sunlight effects. More specifically, it allows users to fuse heterogeneous geospatial data from multiple sources, conduct network-based local-to-global multi-resolution visualization, and share data with others. The wide popularity of virtual globe software such as Google Earth, Microsoft Virtual Earth, NASA World Wind and EarthBrowser in the geospatial and general communities inspires more ways of exploring and using virtual globes. Context-aware visualization and analysis is a particularly important part of these activities, as it can continuously fit the current user's situation or operating environment. When combined with 2D and 3D geospatial Web services, virtual globes can support data analysis, information extraction and even knowledge discovery. Processing of multi-temporal images and change detection has been an active research and application field in remote sensing for decades. The wider availability of large archives of historical images at a global scale makes it also possible for long-term change detection and modeling in a virtual globe platform.

Virtual Changing Globe for Visualisation and Analysis 2009 aims at providing a timely forum for the exchange of state-of-the-art research results in the areas of virtual globes, context-aware visualisation/analysis and change detection and process modelling.

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ISPRS WG IV/4 “Virtual Globes and Context-Aware Visualisation/Analysis”

ISPRS WG VII/5“Methods for Change Detection and Process Modelling”

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