EARTH OBSERVATION SYMPOSIUM (B1)
Earth Observation Data Management Systems (4)

Author: Dr. Fubiao Xi
China Academy of Launch Vehicle Technology (CALT), China, xifubiao@163.com

A EARTH OBSEVATION DATA STORAGE MODEL BASED ON GLOBAL GRID SYSTEM

Abstract

Firstly, the paper introduces the application requirement of Global Grid System on earth observation data, discusses the basic element of regular subdivision. On the basis of them, the new designing steps and creating algorithm of storing-convenient, multi-resolution level index, potential management in dividing, iterative global grid storage model are proposed. Then, we succeeded constructing the grid storage coding space, proposing conversion algorithm based on hierarchical recursive discrete grid coordinate system, this structure can process multi-resolution grid observation data seamlessly. We describe the subdivision storage model scheduling architecture, mainly from the software architecture, partition object management method and data processing method, discussing the relevance and storage tasks and split extension storage device attributes that classified storage object.This model can maximize the potential of observation data on the storage and concurrent access, data load imbalance, such as stacking space and proximity data access characteristics of earth observation data.