Geophysical Research Abstracts, Vol. 7, 07296, 2005
SRef-ID: 1607-7962/gra/EGU05-A-07296

Managing the workflow from data acquisition to knowledge generation concerning the GFZ satellite missions CHAMP and GRACE

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All the different geoscience satellite products of the CHAMP and GRACE satellite missions are managed by appropriated Information Systems and Data Centres (ISDC).

The amount of products (230 product types, 9 Million Files, 8 TB data)* and the number of users (550 public and 90 internal) has reached a level where present concepts as well as currently used technical solutions have to be replaced by innovative ideas and state-of-the art technical solutions.

The entire workflow of data and information from the geophysical sensor to complex product and model processing systems up to the dissemination of knowledge will be presented as integrated approach for the decision of future developments of unique workflow components with special consideration of its interactions.

One main point of the work is the combination and structuring of general and specific product metadata for the setup of a semantic web using domain specific ontologies. Sophisticated but easy to handle semantic structures can be realised using data and text mining methods for the generation of linked metadata indexes, modern thesaurus technologies for term and information structuring as well as topic maps for the formal description of knowledge structures and associated information resources.

*January 2005