Effect of varying crustal thickness on CHAMP geopotential data.

P. T. Taylor (1), K. I. Kis (2), R. R. B. von Frese (3), J. V. Korhonen (4), G. Wittmann (5), H. R. Kim (3), L. V. Potts (6)

(1) NASA/GSFC, Geodynamics Branch, (2) Geophysical and Environmental Physics Research Group of the Hungarian Academy of Sciences, (3) Department of Geological Science, Ohio State University, (4) Geological Survey of Finland, (5) MOL Hungarian Oil and Gas Co., (6) Laboratory for Space Geodesy and Remote Sensing Research, The Ohio State University.

To determine the effect of crustal thickness variation on satellite-altitude geopotential anomalies we compared two regions of Europe with vastly different values, Central/Southern Finland and the Pannonian Basin. Crustal thickness exceeds 62 km in Finland and is < 26 km in the Pannonian Basin. Heat-flow maps indicate that the thinner and more active crust of the Pannonian Basin has a value nearly three times that of the Finnish Svecofennian Province. Ground based gravity mapping in Hungary shows that the free-air gravity anomalies across the Pannonian Basin are near 0 to +20 mGal with shorter wavelength anomalies from +40 to <+60 mGal and some 0 to >-20 mGal. Larger anomalies are detected in the mountainous areas. The minor value anomalies can indicate the isostatic equilibrium for Hungary (the central part of the Pannonian Basin). Gravity data over Finland are complicated by de-glaciation. CHAMP gravity data (400 km) indicates a west-east positive gradient of >4 mGal across Central/Southern Finland and an ovoid positive anomaly (~4 mGal) quasi-coincidental with the magnetic anomaly traversing the Pannonian Basin. CHAMP magnetic data (425 km) reveal elongated semi-circular negative anomalies for both regions with South-Central Finland having larger amplitude (<-6 nT) than that over the Pannonian Basin, Hungary (<-5 nT). In both regions subducted oceanic lithosphere has been proposed as the anomalous body.

First Announcement

2nd CHAMP Science Meeting

GeoForschungsZentrum Potsdam

September 1-4, 2003

General Information

About 1.5 years after the 1st CHAMP Science Meeting took place in Potsdam, a second meeting will be held on September 1-4, 2003 at the GeoForschungsZentrum Potsdam (GFZ). The meeting shall stimulate a broad discussion within the international science community, especially among the CHAMP data and product users, on the exploitation and application of CHAMP data.

It is planned to publish conference proceedings in a reviewed international journal or, as the proceedings of the 1st CHAMP Science Meeting, in the Springer geosciences series - details later on.

For the Organizing Committee:

Christoph Reigber, CHAMP Project Director

GFZ, Department_1 Back

Originator: Christoph Reigber
Mar 26, 2003, webadmin A.Helm

GFZ
POTSDAM

GFZ Potsdam, Department 1

The CHAMP Mission

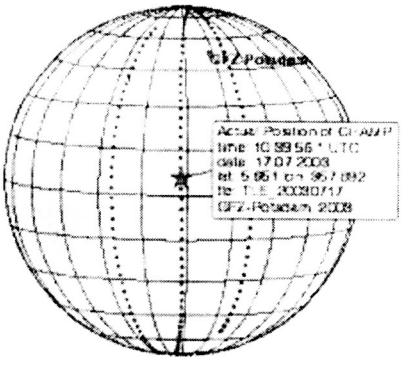
Project Director: Prof. Christoph Reigber

Today: 17.7.2003, 10:56h (UTC)

News

- CHAMP Mission Elapsed Time:
  1096 days, **22** hours and **56** minutes

- CHAMP satellite in healthy condition; July 16, 2003
- Today CHAMP is celebrating his 3rd birthday. On 12:33 UTC CHAMP will enter into the 16958th revolution around the Earth. CHAMP is showing an extremly good performance and the mission has provided until now almost 3 million highly



(Try SHIFT-reload frame to update plot)

CHAMP newsletter

Latest newsletter No. 12

valuable scientific products on the Earth´s gravity field,magnetic field and atmosphere. We wish CHAMP a long life and hope that he will continue to deliver uninterrupted data series for the benefit of Earth Sciences; July 15, 2003

CHAMP related meetings

>Sep 1 - 4, 2003: **Second CHAMP Science Meeting** held at GeoForschungsZentrum Potsdam

History of CHAMP related meetings

News Originator: Ch. Reigber
Last update of news: 16 July 15:08, go to older news For further information contact: champ@gfz-potsdam.de

Visit

CHAMP Orbit Counter
Last update of ASCII table: 14 July 09:18

CHAMP Announcement of Opportunity

CHAMP Sample Data Set

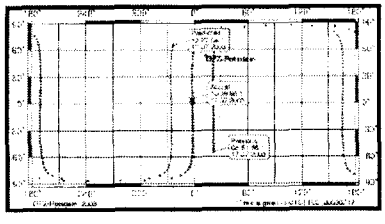
CHAMP Current Orbit Data

CHAMP Data Center (ISDC)

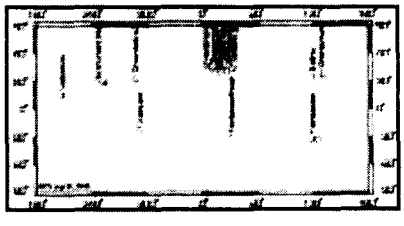
CHAMP Videoclips

CHAMP Picture Gallery

CHAMP Online Available Documents



Actual ground track plot



SLR tracking of CHAMP
104 SLR passes in July 2003

Introduction

CHAMP (**CHA**llenging **M**inisatellite **P**ayload) is a German small satellite mission

Contents

for geoscientific and atmospheric research and applications, managed by GFZ. With its highly precise, multifunctional and complementary payload elements (magnetometer, accelerometer, star sensor, GPS receiver, laser retro reflector, ion drift meter) and its orbit characteristics (near polar, low altitude, long duration) CHAMP will generate for the first time simultaneously highly precise **gravity** and **magnetic** field measurements over a 5 years period. This will allow to detect besides the spatial variations of both fields also their variability with time. The CHAMP mission will open a new era in geopotential research and will become a significant contributor to the **Decade of Geopotentials**.

In addition with the **radio occultation** measurements onboard the spacecraft and the infrastructure developed on ground, CHAMP will become a pilot mission for the pre-operational use of space-borne GPS observations for atmospheric and ionospheric research and applications in weather prediction and space weather monitoring.

GFZ Potsdam

CHAMP

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GFZ Department 1

Section 1.2

Gravity Missions and Analysis

CHAMP

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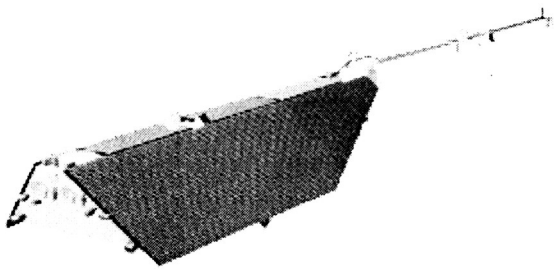
n healthy condition;

GeoForschungsZentrum
Potsdam (GFZ)
Telegrafenberg
D-14473 Potsdam
+49(0)-331-288-0

CHAMP

Contact Information Addresses of Key Personnal



In order to contact the CHAMP project, please refer to the listed contact persons directly or use the following central CHAMP email address:

champ@gfz-potsdam.de

Addresses

Name	Function	Org	Tel	Fax	E
Reigber, Christoph	**CHAMP Project Director**	GFZ	+49 331 288-1100	+49 331 288-1111	re
Offermann, Peter	**CHAMP Administration**	GFZ	+49 331 288-1015	+49 331 288-1023	o p
Weisse, Katrin	**CHAMP Outreach**	GFZ	+49 331 288-1102	+49 331 288-1111	w