



***EO-1-2014: New ideas for Earth-relevant space applications
Research and Innovation action***

Action acronym: **EGSIEM**
Action full title: European Gravity Service for Improved Emergency Management
Grant agreement no: 637010

**Deliverable 7.3:
TEASER LECTURE**

Date: 18.03.2016

The poster content is enclosed in a blue border. At the top left is a small box with 'PHYSIK AM FREITAG'. The EGSIM logo and full name are centered at the top. Below it, the text 'ist ein Projekt zwischen 8 europäischen Partnern' is followed by logos for u^o, uni.ln, GFZ, TU Graz, DLR, and cnes. Underneath, 'finanziert durch' is followed by the European Commission logo. The bottom text reads 'zur Erstellung bestmöglicher Schwerefeldprodukte und zur Untersuchung auf deren Eignung für Frühwarnsysteme'. A small 'PHYSIK AM FREITAG' box is at the bottom right.

Prepared by: Keith Cann-Guthauser



1. Change Record

Name	Author(s)	Date	Document ID
Draft	KCG	16.03.16	D7.3_16.03.16
Final	KCG	18.03.16	D7.3_Teaser_Lecture



Table of Contents

1. Change Record	2
2. Document overview	4
3. Background.....	4
4. Details.....	5
5. Photographs	5



2. Document overview

This document provides background, details and some photographs of the first public lecture given within the framework of the EGSIEM project.

3. Background

The Description of Action states that “A Teaser lecture will be prepared to attract scholars to the field of engineering and science.”

As part of a wider aim to encourage public recognition and engagement with the scientific disciplines found within the EGSIEM consortium (mainly Geodesy and Hydrology), a series of public lectures were planned in the initial proposal to take place throughout the life of the project. The first of these public lecture took place within the context of the regular [Physik am Freitag](#) lecture series held at the University of Bern. Although this Deliverable mainly covers the lecture given on the 11. March 2016, some previous public engagement events have taken place to publicise the work being undertaken within EGSIEM:

- [World Environment Day](#), Luxembourg, June 5:
 - Prof. T. van Dam talked to high school students about the changing water cycle and the goals of EGSIEM. Other panelists included members of the Luxembourg Government and the U.S. State department. Students received a tree and were encouraged to plant it to offset the increase in atmospheric carbon dioxide. World Environment Day is the United Nations’ principal vehicle for encouraging worldwide awareness and action to protect the planet Earth. See [EGSIEM Newsletter No. 2](#) (July 2015) for more details

- [Czech Space Day](#), Prague, July 3:
 - Featured an invited talk by Dr. T. Bandikova on EGSIEM public education activities and was organized by the Czech Space Office for high school students and university undergraduates

4. Details

During previous EGSIEM meetings a store of suitable material (Cartoons, Videos etc) was collected from the consortium to assist with future public engagement lectures. Prof. Dr. Adrian Jäggi of the Astronomical Institute, University of Bern was able to draw on this resource when he gave a talk entitled *Von Wasser, Eis und Satelliten – und was uns die Schwerkraft über Umweltveränderungen verrät* (*On Water, Ice and Satellites - what they and gravitational fields reveal to us about environmental changes*) at the Exacte Wissenschaft building, Bern on Friday, 11. March 2016. The presentation given is available to download on our project [website](#) and there is a short news story about the presentation where anyone interested can also view a few pictures of the event. Around 80 members of the public attended the talk which introduced those present to how earth observation data can be used to manage and predict the planets water resources. The talk lasted around an hour, and those present were invited to a small reception afterwards. There were several locations at which to take home hard copies of the [EGSIEM Brochure and Newsletters](#).


5. Photographs





PHYSIK AM FREITAG

Satellitenbahnen



Bewegungsgleichung

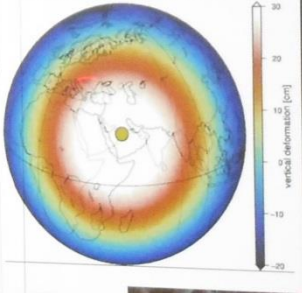
$$m \cdot \ddot{\vec{x}} = \vec{F}(t, \vec{x}, \dots)$$

=> Numerische Integration der Bahn

Kräfte:

- Statisches Schwerefeld
- Weitere Himmelskörper (Sonne, Mond, Planeten)
- Festerdegezeiten
- Ozeangezeiten
- Polgezeiten
- Ozeanpolgezeiten
- Atmosphärische Gezeiten
- Dealiasing (Atmosphäre, Ozeane)
- Nicht-gravitativ Kräfte
- Relativistische Effekte

Earth Tide IERS2010 (23.06.2013 08:00:00)



PHYSIK AM FREITAG

