Minutes of the 9th RUG-Meeting 06.-07. February 2013 Karlsruhe, Germany

Chairman: Florian Gering

Begin of Meeting: 06 February 2013 , 13.00 h

06 February

Presentation 1: Wolfgang Raskop, KIT, New Functionalities JRodos

New JRodos Features:

- ICRP Screening model
- DEPOMPP model (pre-processor for FDMT, which allows to calculate food contamination and doses based on monitoring data)
- ERMIN Version 1.01
- Worldwide use, data set available (elevation, landuse, population, soil, NPPs)
- GRIB2 NWP are supported, result presentation NUTS3
- New model chains: “EmergencyLight” and “Preparedness”
- JRodos Result Manager: Select and save/load result selection
- Export/import of complete JRodos projects

Major bug fixes:

- DIPCOT wet deposition
- Thyroid intervention dose, now only from inhaled iodine, without external radiation
- distance calculation was corrected

Next steps

- New grid: Now 2520 points, inner resolution 1 km. New 8000 points, inner resolution 300 m, with a calculation readius of 100 km
- functionality to switch between the grids, to be done
- ICRP Screening model, coupling with FDMT
- ERMIN2, User Interface still missing
- User B web-based interface

Discussion:
Florian Gering: What is the time schedule for next version?
Wolfgang Raskob: Grid and Screening, will be done in March/April

Presentation 2: Wolfgang Raskop, NERIS-TP

- Last year of the project, 5 work packages, one is the European platform (WP1), which will provide a forum for discussing and influencing the research
- 45 participating organizations
- Links to other platforms, MELODI, ICRP, NEA, WPNEM, IAEA, Interaction with FAIRDO
- WP4: early notification, coupled with Decision Support Systems, using WRF
- WP5: Dissemination

Presentation 3: Tatjana Duranova, Training Courses

6-8 Feb 2012: Implementation of ICRP standards
22-24 Jan 2014: Strengthening the preparedness at national and territorial level”, Oslo

Two further training courses are envisaged
Oct 21-22 2013: WP2 products
Oct 23-25 2013: WP4 products, both at VUJE Mo-Fr, Slovakia

First enouncement in March for the planning, information will be send by email

- Participants: only one person per organization, training at home for the other staff shall be given from Nov 11-13, course material and data will be provided by VUJE
- Feedback from the courses shall be reported to VUJE, bugs will be fixed

Presentation 4: Wolfgang Raskob, Rodos Maintenance contract

60000 Euro were spend for bug fixing and new developments on the following topics

- Worldwide use
- Reduce number of tabs in the graphical user interface (RoLite)
- Improve documentation
- Training course for ERMIN

Next project: more than one source, this is implemented and fundes in cooperation with Switzerland

Presentation 5: Milagros Montero, Experiences using JRodos at CIEMAT

Paper on results for the Fukushima accident with JRodos has been published.
Coupling MATCH to LSMC does not work

Discussion.
Wolfgang Raskob: Results from MATCH and LSMC are not summarized, LSMC-results are not displayed

Presentation 9: Kathrin Arnold, JRodos Operation in Germany

Questions/Remarks:
It does not seem possible to display the FDMT results each with their own color scale.
Dmytro Trybushnyi: That is because all results in the same subfolder will be scaled with the same color scale, this could be changed in future

Presentation 10: Florian Gering, UNSCEAR report on Fukushima (atmospheric dispersion calculations)

07 February:

Presentation 11: Wolfgang Raskob, Future developments of JRodos at KIT

- Several Projects coming from NERIS-TP: ERMIN
- Multiple Sourceterms, in cooperation with Switzerland
- Connection to global weather data, WRF, will be ready for testing this year, operational next year, will be presented in Tatianas Training course in autumn
- Simplified user interface with a wizard, where the user can request for a certain meteorological scenario. This will be created with hand input, not from NWP
- Data-assimilation: not planned so far, but KIT is interested to take on this project, maybe these activities can start in autumn. This will include the development of ensemble methods, might also be used for probabilistic assessments, could be one topic for the next 5 years
- Limitation of the source term resolution to 24 steps is artificial to save computing resources, can be changed for the future. This is important for the long-lasting source terms gathered from reverse modeling. This feature is not so important for the emergency situation, more

interesting for re-calculation, as in an emergency situation such detailed information will not be available.

- 3 emergency chains now, light interface has less tabs, to be applied in case of an emergency, a selection of the result will not be necessary. This will save some time and make use of Rodos very straight forward. Ideas for changes can be discussed in the RUG and are welcome.

Discussion:

- Tatiana Duranova: Training course in autumn will be a good place to discuss the improvement of tools together with members of NERIS.
- Web-HIPRE: interfaces will be prepared for ERMIN. But a similar system has been established to replace Web-Hibre. This could be further developed.
- Chris Twenhöfel: Data-assimilation. Is this work related to the PREPARE-Working group of Spyros Andronopoulos?
  Wolfgang Raskob: We are planning something different. We want to extend the system to do multiple runs (emsembles) for probabilistic studies. Independent of the PREPARE WG, which is focussing on source term reconstruction. But this activity has to be agreed to by the management of KIT.
  Florian Gering: There is a lot of knowledge available in the whole RUG, we do not need to reinvent things, but use the knowledge available.

Presentation 12: Guiseppe Testa, JRodos at ENSI

The focus is currently on achieving a better performance of LASAT in JRodos..
Test case: A 24 h meteorological data set, 250 m resolution, 25 km radius, all particles will stay in the area, a couple of million particles have to be transported.
Performance on test system with 80 cores: approx. 52 minutes runtime
The Janicke company has started with increasing the performance of LASAT, now it is 13 minutes. Changes have been made within LASAT, not to JRodos. The Janicke company will also provide Lobgam (dose calculation from the cloud) for JRodos. Lasat (and Lobgam) are parallelized, results are expected by the end of the year.

Discussion:
Tatiana Duranova: Why LASAT?
Guiseppe Testa: We want a Lagrangian Particle model, so either DIPCOT or LASAT. DIPCOT has some restrictions, so decision was made for LASAT.
Wolfgang Raskob: Lobgam has the advantage that it is corresponding to German regulatory rules.

Presentation 13: Florian Gering, Licensing issues with LASAT

The Janicke company offers a LASAT group-license for the RUG (about 20000 Euro). This offer has already been made in September 2010, but is still available. It has to be agreed, how to raise the money from the RUG. The license is unlimited and includes all future updates.

Discussion:
Johan Camps: Are there special hardware requirement for using LASAT in JRodos?
Florian Gering: Yes, JRodos can run on any modern PC, but LASAT is very resource consuming and should be run in a multi-core environment.

Presentation 14: Florian Gering, Experiences from Fukushima accident, Assessment of external exposure from GDR

The issue of making a prediction of the dose for the first year based on measurements will be a requirement in any future accident. This feature will become part of FDMT-PP.
The input data to the FDMT-PP will be various measurements, from which FDMT-PP calculates the doses and also foodstuff contaminationd. No interpolation between the data point yet, but this will be implemented in the future.

Discussion:
Johan Camps: Do you need fully calibrated input data? Or a ratio of radionuclides?
Florian Gering: Basically, only the ratio. But nuclide specific data can also be used.
Raimo Mustonen: Depositon ratio might differ between places, how can this be included?
Florian Gering: In Japan, there was a strong variation between the nuclide spectra, but there is no limitation from the system.
Raimo Mustonen: In Finland, Lanthanum-Bromide spectrometers are used, they give nuclide specific data every 10 minutes.
Florian Gering Then, the results can be updated with every new measurement. And this can be combined with aerogamma measurements.

Presentation 15: Avi Sharon, Source Term Characterization for RDD Scenarios

End of Meeting on 07 February, 13.00 h