

# Workshop on Diagnostics for Rossby Wave Packets

## 1. - 3. February 2016

### JGU Mainz and KIT Karlsruhe

Waves to Weather organizes a “Workshop on Diagnostics for Rossby Wave Packets”. The workshop will take place on Feb 01 and Feb 02 at JGU Mainz and on Feb 03 at KIT. The exact location is yet to be determined. In Mainz it will be at the Institute for Atmospheric Physics, Becherweg 21 (for organization details in Mainz contact Dr. J. Eichhorn. [eichhorn@uni-mainz.de](mailto:eichhorn@uni-mainz.de)). Funding will be provided by the Management Project Z1.

#### Schedule

For each topic indicated with an asterisk we plan a presentation containing three layers: the scientific content associated with the diagnostic, the algorithms adopted, and finally the code used to implement the method. This is a workshop, not a conference, so we explicitly encourage discussion of technical issues and problems.

#### Monday, Feb 01 (Mainz)

0930h            Opening (Volkmar, Andreas)  
0945-1015h    Short overview of planned 'tools repository' within W2W framework (Joachim)  
1015-1115h    \* RWP representation following Zimin et al. (2003, 2006) (Gabriel)  
1115-1130h    Coffee break  
1130-1230h    \* Thresholds for object identification (Gabriel)  
  
1230-1400h    Lunch  
  
1400-1500h    \* Forecast errors (Gabriel)  
1500-1530h    Ongoing activities and future plans in Mainz (Paolo, Georgios)  
1530-1700h    In-depth discussion in small groups (Gabriel, Vanessa, Michael, etc.)

#### Tuesday, Feb 02 (Mainz)

0900-1000h    \* Semigeostrophic transformation (Gabriel)  
1000-1100h    \* Tracking of RWPs (Gabriel)  
1100-1115h    Coffee break  
1115-1215h    \* Climatologies (Gabriel)  
  
1215-1345h    Lunch  
  
1345-1445h    \* Wave activity flux (Gabriel)  
1445-1515h    Ongoing activities and future plans in Reading (Gabriel)  
1515-1545h    Closing discussion  
1545-1700h    Optional further discussion in small groups

## **Wednesday, Feb 03 (Karlsruhe)**

All day: More detailed, in-depth discussion between Gabriel and the PhD students

### **Recommended literature as preparation for the workshop:**

Takaya, K. & Nakamura, Y.: A Formulation of a Phase-Independent Wave-Activity Flux for Stationary and Migratory Quasigeostrophic Eddies on a Zonally Varying Basic Flow. *J. Atmos. Sci.*, **2001**, *58*, 608-627

Wolf, G., and V. Wirth: Implications of the semigeostrophic nature of Rossby waves for Rossby wave packet detection. *Mon. Wea. Rev.*, **2015**, *143*, 26-38

Zimin, A. V.; Szunyogh, I.; Patil, D. J.; Hunt, B. R. & Ott, E.: Extracting Envelopes of Rossby Wave Packets.

*Mon. Wea. Rev.*, **2003**, *131*, 1011-1017

Zimin, A. V.; Szunyogh, I.; Hung, B. R. & Ott, E.: Extracting Envelopes of Nonzonally Propagating Rossby Wave Packets. *Mon. Wea. Rev.*, **2006**, *134*, 1329-1333