

Consortium



for

Small-Scale Modelling

Technical Report No. xx

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MeteoSwiss

Ufficio Generale Spazio Aereo e Meteorologia

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CIMA Foundation



www.cosmo-model.org

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1 Abstract

If you are really out of latex, you can write a .doc and convert it here:

<https://www.grindeq.com/index.php?p=word2latex>

A certain number of trials are free. This is particularly useful if you have a lot of equations, tables, etc..

A good latex editor is here (free)

<https://kile.sourceforge.io/>

or (again free)

<https://www.xmlmath.net/texmaker/>

An online editor that you can share (like in google doc), is here (registration needed)

<https://www.overleaf.com/>

For the compilation, please use

`pdflatex trxx.tex`

to create your trxx.pdf file.

2 Introduction

An example of equation:

$$\left(\frac{\partial}{\partial t} + \mu\sqrt{(1 - \lambda^2\Delta)}\right)^3\xi(t, s) = \sigma\alpha(t, s) \quad (1)$$

Then you can refer to eq. 1.

3 Whatever

A figure:

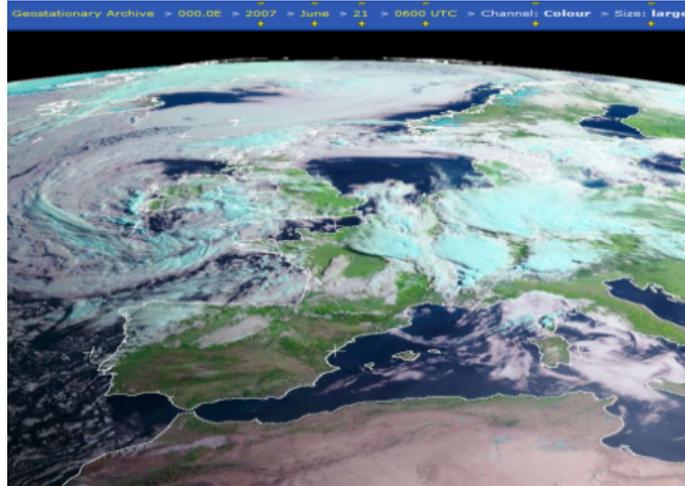


Figure 1: A figure.

BTW, you don't need to have eps files like in Fig. 1, but any other format is good (png, jpg, etc..). The editor will convert them into eps.

List of items:

- ...
- ...

3.1 One more

3.1.1 Another one

Concerning tables, as Tab. 1, you can create your own here (free)

<https://www.tablesgenerator.com/>

or use the classic approach:

1	2	3
4	5	6

Table 1: A table.

4 Conclusions

Job completed!

5 Acknowledgments

Thanks to my cat.

6 References

Bowler, N.E., Arribas, A., Mylne, K.R., Robertson, K.B. and Beare, S.E., 2008. The MOGREPS short-range ensemble prediction system. *Q. J. Roy. Meteorol. Soc.* **134**, 703–722.

Buizza, R., Hollingsworth, A., Lalauette, F. and Ghelli, A., 1999. Probabilistic predictions of precipitation using the ECMWF Ensemble Prediction System. *Wea. Forecasting* **14**, 168–189.

Buizza, R., 2005. The ECMWF Ensemble Prediction System. In: *Predictability of weather and climate*, (eds. T. Palmer and R. Hagedorn), Cambridge University Press, Cambridge, 459–488.

List of COSMO Newsletters and Technical Reports

(available for download from the COSMO Website: www.cosmo-model.org)

COSMO Newsletters

- No. 1: February 2001.
- No. 2: February 2002.
- No. 3: February 2003.
- No. 4: February 2004.
- No. 5: April 2005.
- No. 6: July 2006.
- No. 7: April 2008; Proceedings from the 8th COSMO General Meeting in Bucharest, 2006.
- No. 8: September 2008; Proceedings from the 9th COSMO General Meeting in Athens, 2007.
- No. 9: December 2008.
- No. 10: March 2010.
- No. 11: April 2011.
- No. 12: April 2012.
- No. 13: April 2013.

COSMO Technical Reports

- No. 1: Dmitrii Mironov and Matthias Raschendorfer (2001):
Evaluation of Empirical Parameters of the New LM Surface-Layer Parameterization Scheme. Results from Numerical Experiments Including the Soil Moisture Analysis.
- No. 2: Reinhold Schrodin and Erdmann Heise (2001):
The Multi-Layer Version of the DWD Soil Model TERRA_LM.
- No. 3: Günther Doms (2001):
A Scheme for Monotonic Numerical Diffusion in the LM.
- No. 4: Hans-Joachim Herzog, Ursula Schubert, Gerd Vogel, Adelheid Fiedler and Roswitha Kirchner (2002):
LLM — the High-Resolving Nonhydrostatic Simulation Model in the DWD-Project LITFASS.
Part I: Modelling Technique and Simulation Method.
- No. 5: Jean-Marie Bettems (2002):
EUCOS Impact Study Using the Limited-Area Non-Hydrostatic NWP Model in Operational Use at MeteoSwiss.

- No. 6: Heinz-Werner Bitzer and Jürgen Steppeler (2004):
Documentation of the Z-Coordinate Dynamical Core of LM.
- No. 7: Hans-Joachim Herzog, Almut Gassmann (2005):
Lorenz- and Charney-Phillips vertical grid experimentation using a compressible non-hydrostatic toy-model relevant to the fast-mode part of the 'Lokal-Modell'.
- No. 8: Chiara Marsigli, Andrea Montani, Tiziana Paccagnella, Davide Sacchetti, André Walser, Marco Arpagaus, Thomas Schumann (2005):
Evaluation of the Performance of the COSMO-LEPS System.
- No. 9: Erdmann Heise, Bodo Ritter, Reinhold Schrodin (2006):
Operational Implementation of the Multilayer Soil Model.
- No. 10: M.D. Tsyrlunikov (2007):
Is the particle filtering approach appropriate for meso-scale data assimilation ?
- No. 11: Dmitrii V. Mironov (2008):
Parameterization of Lakes in Numerical Weather Prediction. Description of a Lake Model.
- No. 12: Adriano Raspanti (2009):
COSMO Priority Project "VERification System Unified Survey" (VERSUS): Final Report.
- No. 13: Chiara Marsigli (2009):
COSMO Priority Project "Short Range Ensemble Prediction System" (SREPS): Final Report.
- No. 14: Michael Baldauf (2009):
COSMO Priority Project "Further Developments of the Runge-Kutta Time Integration Scheme" (RK): Final Report.
- No. 15: Silke Dierer (2009):
COSMO Priority Project "Tackle deficiencies in quantitative precipitation forecast" (QPF): Final Report.
- No. 16: Pierre Eckert (2009):
COSMO Priority Project "INTERP": Final Report.
- No. 17: D. Leuenberger, M. Stoll and A. Roches (2010):
Description of some convective indices implemented in the COSMO model.
- No. 18: Daniel Leuenberger (2010):
Statistical analysis of high-resolution COSMO Ensemble forecasts in view of Data Assimilation.
- No. 19: A. Montani, D. Cesari, C. Marsigli, T. Paccagnella (2010):
Seven years of activity in the field of mesoscale ensemble forecasting by the COSMO-LEPS system: main achievements and open challenges.
- No. 20: A. Roches, O. Fuhrer (2012):
Tracer module in the COSMO model.

COSMO Technical Reports

Issues of the COSMO Technical Reports series are published by the *COnsortium for Small-scale MOdelling* at non-regular intervals. COSMO is a European group for numerical weather prediction with participating meteorological services from Germany (DWD, AWGeophys), Greece (HNMS), Italy (USAM, ARPA-SIMC, ARPA Piemonte), Switzerland (MeteoSwiss), Poland (IMGW), Romania (NMA) and Russia (RHM). The general goal is to develop, improve and maintain a non-hydrostatic limited area modelling system to be used for both operational and research applications by the members of COSMO. This system is initially based on the COSMO-Model (previously known as LM) of DWD with its corresponding data assimilation system.

The Technical Reports are intended

- for scientific contributions and a documentation of research activities,
- to present and discuss results obtained from the model system,
- to present and discuss verification results and interpretation methods,
- for a documentation of technical changes to the model system,
- to give an overview of new components of the model system.

The purpose of these reports is to communicate results, changes and progress related to the LM model system relatively fast within the COSMO consortium, and also to inform other NWP groups on our current research activities. In this way the discussion on a specific topic can be stimulated at an early stage. In order to publish a report very soon after the completion of the manuscript, we have decided to omit a thorough reviewing procedure and only a rough check is done by the editors and a third reviewer. We apologize for typographical and other errors or inconsistencies which may still be present.

At present, the Technical Reports are available for download from the COSMO web site (www.cosmo-model.org). If required, the member meteorological centres can produce hardcopies by their own for distribution within their service. All members of the consortium will be informed about new issues by email.

For any comments and questions, please contact the editor:

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