

Introduction to the *MAGiC* Session

Ernie R. Lewis

2015 ARM/ASR Joint User Facility PI Meeting
Vienna, VA

Thursday, March 19, 2015

Acknowledgements

AMF2 technicians

Horizon Lines and the Captain and crew of the *Horizon Spirit*

Atmospheric System
Research (ASR) Program



Atmospheric Radiation
Measurement (ARM) Program



Agenda

- 1) Please sign in
- 2) *MAGIC* news
- 3) *MAGIC* publications
- 4) *MAGIC* posters
- 5) Presentations
- 6) Discussion

MAGIC News

MAGIC-2

Proposal due May 1, 2015

Ideas welcome

Ship for MAGIC-2

Pasha Hawaii buying Horizon's Hawaii business, *Spirit*

US DOJ asked for more documents regarding the sale

"Golden legs" (one summer, one winter)

Leg15A, LA to HI (2013-07-20, 12:00 UTC - 2013-07-25, 05:40 UTC)

Leg06B, HI to LA (2012-11-24, 11:05 UTC - 2012-11-30, 01:00 UTC)

MAGIC Science News, MAGIC Updates

Data issues, releases

Timing issues with CCN, UHSAS

O3, PSAP issues - being dealt with

NAV best estimate released

MAGIC Publications

Peter Kalmus et al., *J. Clim.* (published)

- MBL energy and water budgets

Xiaoli Zhou et al., *J. Clim.* (in press)

- MAGIC climatology, MBL decoupling and cloud breakup

Ernie Lewis & Joao Teixeira, *EOS* (accepted)

Youtong Zheng & Danny Rosenfeld, *GRL* (submitted)

- Relating updraft speeds and cloud base height

Mark Fielding et al., *Atmos. Meas. Tech. Discuss.* (submitted)

- Retrieving vertical profiles of clouds and drizzle properties

David Pamemil et al., *JGR* (submitted)

- Regional-scale factors that influence synoptic variability of clouds, CCN

MAGIC Publications

Peter Kalmus et al., *J. Clim.* (published)

- MBL energy and water budgets

Xiaoli Zhou et al., *J. Clim.* (in press)

- MAGIC climatology, MBL decoupling and cloud breakup

Ernie Lewis & Joao Teixeira, *EOS* (accepted)

Youtong Zheng & Danny Rosenfeld, *GRL* (submitted)

- Relating updraft speeds and cloud base height

Mark Fielding et al., *Atmos. Meas. Tech. Discuss.* (submitted)

- Retrieving vertical profiles of clouds and drizzle properties

David Pamemal et al., *JGR* (submitted)

- Regional-scale factors that influence synoptic variability of clouds, CCN

Please inform me of publications, and please acknowledge Horizon & Captain and crew.

MAGIC Posters

Satellite and Ship-based Estimates of Cloud-aerosol Interactions during MAGIC Campaign

- D. Painemal, P. Minnis, J. Chiu, & C. Yost

Analysis of Shortwave Spectrometry during MAGIC

- A. Marshak, W. Yang, P. McBride, C. Flynn, S. Schmidt, J. Chiu, & E. Lewis

Combined High Spectral Resolution Lidar and Millimeter Wavelength Radar Retrieval of Precipitation Rates

- E. Eloranta

Linear Relation between Convective Cloud Base Height and Updrafts and Application to Satellite Retrievals

- Y. Zheng & D. Rosenfeld

MAGIC at Every Level: Vertically Resolved Cloud and Drizzle Properties Using ENCORE

- M. Fielding, J. Chiu, R. Hogan, G. Feingold, E. Eloranta, E. O'Connor, & M. Cadetdu

MAGIC Posters (cont.)

Quantifying Cloud Organization and a First Look at UKMO Simulations for
MAGIC

- C. Morcrette

Surface Energy Fluxes over the Eastern North Pacific Measured during the
MAGIC Field Campaign

- E. Lewis & M. Reynolds

MAGIC Radiative Flux Compared to NASA Clouds and the Earth's Radiant
Energy Systems (CERES) SYN1Deg Radiative Transfer Calculations

- D. Rutan, F. Rose, & S. Kato

Ship-following Large-eddy Simulation of a Sc-Cu Transition Observed during
MAGIC Leg 15A

- J. McGibbon & C. Bretherton

Stratocumulus-to-Cumulus Cloud Transition: A Case Study from the MAGIC
Field Campaign

- M. Schwartz & V. Ghate

MAGIC Presentations

Plenary

9:00 am Wednesday, March 18, 2015

David Painemal, NASA-LRC

Satellite and ship-based estimates of cloud-aerosol interactions during the
MAGIC campaign

MAGIC Presentations (this session)

Comparison of Parsivel disdrometer with low-level KAZR observations

- Mary Jane Bartholomew (BNL)

A first look at Met Office hind-casts for MAGIC

- Cyril Morcrette (Met Office)

Quantifying factors determining thermals and cloud base updraft speeds over the land and ocean

- Youtong Zheng (U. Maryland)

Analysis of shortwave radiation measurements of marine low clouds during MAGIC

- Alexander Marshak (NASA/GSFC)

Improved drizzle measurements using Mie corrections to lidar extinction and radar backscatter cross sections

- Ed Eloranta (U. Wisc.)

MAGIC Presentations (cont.)

Vertically resolved cloud and drizzle properties during MAGIC

- Mark Fielding (U. Reading)

Surface energy fluxes over the Eastern North Pacific measured during MAGIC

- Ernie Lewis (BNL)

Bias error sources for surface SW radiant flux (calculated - observed)

- David Rutan (NASA-LRC)

Discussion

Second MAGIC Science Workshop?

Needs?

Comments?