



JOANNEUM  
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DIGITAL



Space and  
Communication  
Technology

**4<sup>th</sup> URSI Austria Commission Member Meeting**

**URSI Commission F**  
**Selected Activities in the Field of**  
**Wave Propagation and Remote Sensing**

**Dipl.-Ing. Dr. Michael Schönhuber**

**JOANNEUM RESEARCH**  
**Space and Communication Technology**

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Austrian Academy of Sciences, Schmiedlstrasse 6, 8042 Graz

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## ■ Selected relevant ongoing activities

- Ka-Band Satellite Channel in Tropical Regions
- The aeronautical channel and ground reflections
- Channel Forecast
- 3D reconstruction of rain drops

## ■ Conference contributions

## ■ ITU submission

# Selected relevant ongoing projects

## Ka-Band Satellite Channel in Tropical Regions

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Malaysia, July 2015

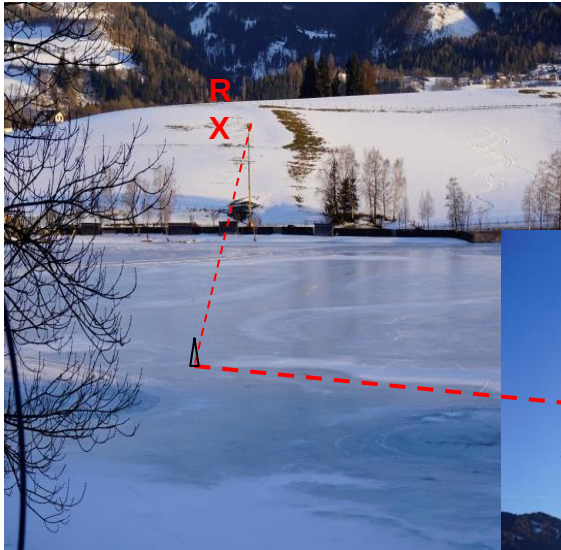




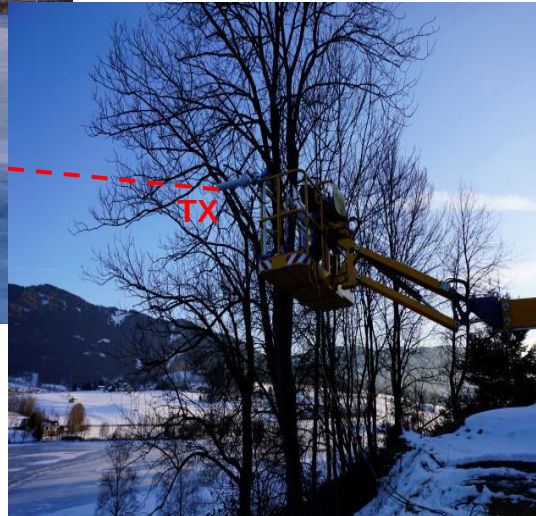
# Selected relevant ongoing projects

## The Aeronautical Channel and Ground Reflections

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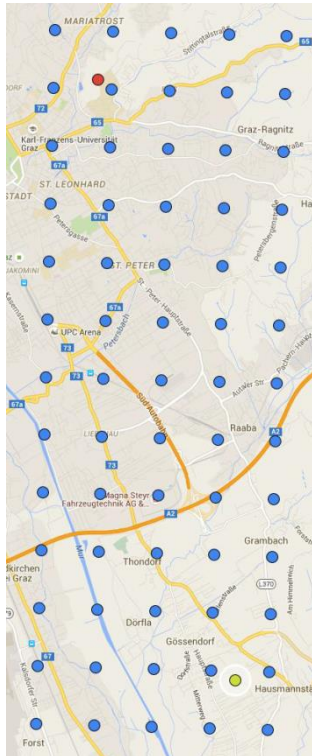
Lake Putterersee  
February 2015



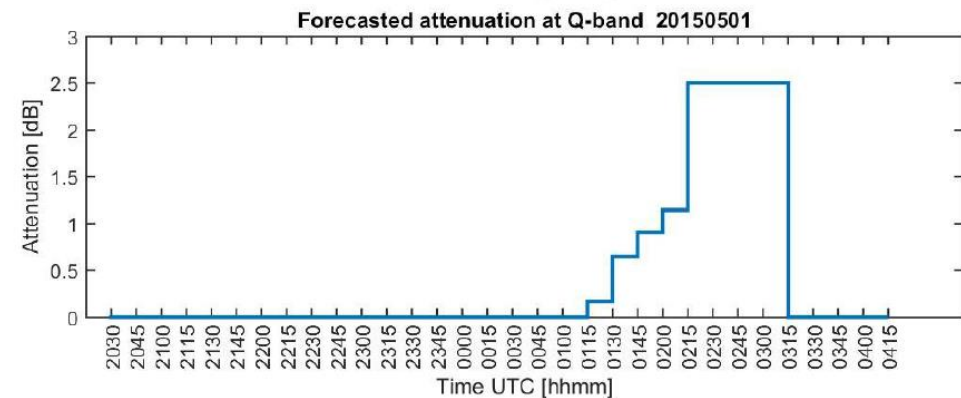
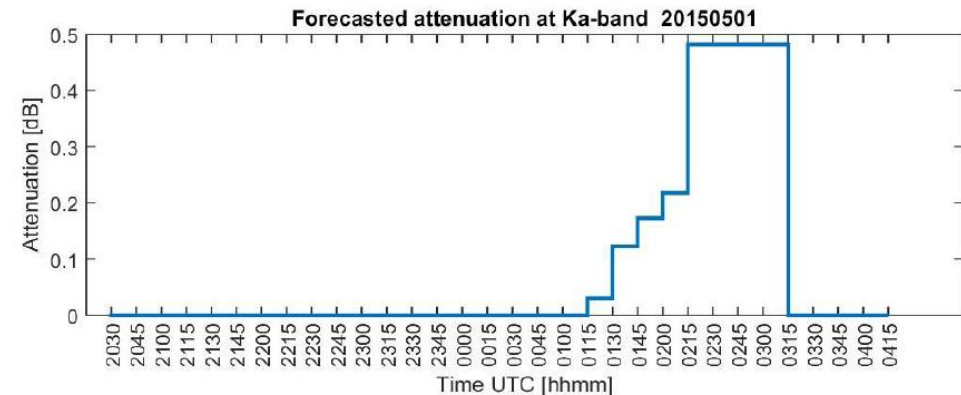
# Selected relevant ongoing projects

## Channel Forecast

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INCA grid points

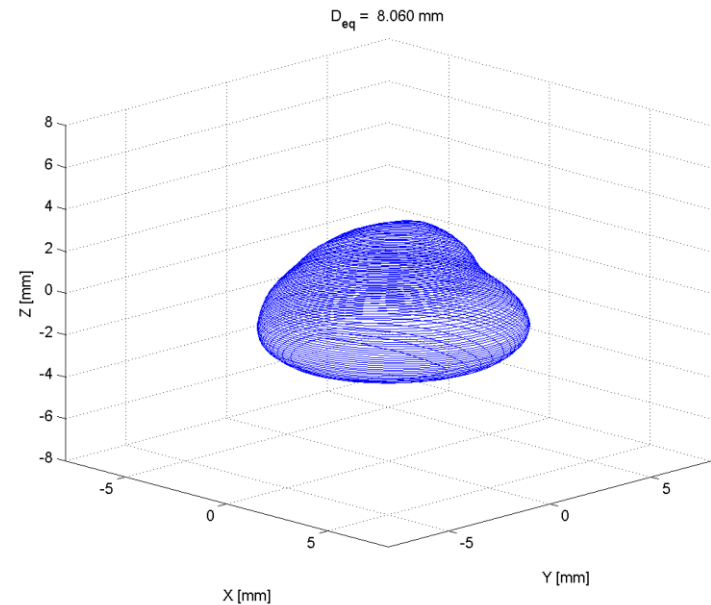
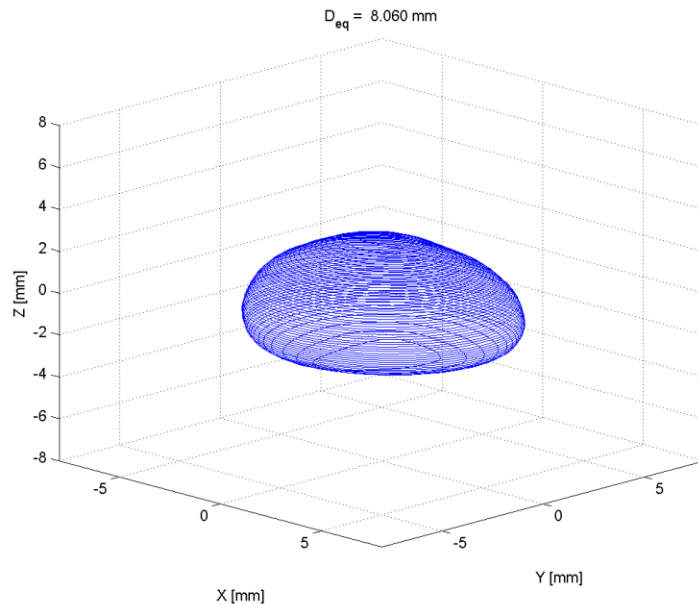


First results of channel attenuation forecast

# Selected relevant ongoing projects

## 3D reconstruction of raindrops Forecast

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Raindrops' 3D contour, reconstructed from front and side view

# Conference Contributions

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## **EuCAP 2015:**

Cuervo F., K. Plimon, M. Schönhuber, V. Mattioli, A. Martellucci<sup>3</sup>, J. Rivera Castro<sup>3</sup>

“Use of Microwave Profiler and Ka/Q-band Ground Propagation Terminal for Alphasat ALDO TDP5 Propagation Experiment – First Year of Operation”

Ebert J., K. Plimon, M. Schmidt, J. Rivera Castro (2015)

“Measurement of Instantaneous Frequency Scaling for Q/V-Band”

Plimon K., F. Cuervo, G. Lammer, G. Obertaxer, M. Schönhuber, A. Martellucci, J. Rivera Castro (2015)

„Rain XPD of Alphasat TDP5 Propagation Signals: Preliminary Analyses and Disdrometer Derivations”

Schönhuber M., K. Plimon, M. Thurai (2015)

“Statistical significance of specific rain attenuation dependence on geographic and climatic conditions”

Schwinzerl M., T. Jost, F. Perez-Fontan, M. Schönhuber, W. Wang, M. Walter, T. Pelzmann, G. Obertaxer, N. Flourey, R. Prieto-Cerdeira (2015)

„Wide-Band Characterization of Antennae Plus Aircraft Platform Patterns in L- and Ka-Band“

## **IEEE Aerospace Conference 2015:**

Ebert J., M. Schmidt, H. Schlemmer, E. Türkyilmaz, S. Kastner-Puschl, J. Rivera Castro (2015)

“The Alphasat Aldo Paraboni Experiment: Fade Mitigation Techniques in Q/V-Band Satellite Channels, First Results”

## **Ka-Band Conference 2015:**

Cuervo F., M. Schoenhuber, C. Capsoni, L. Ho. Yin, J. Bin Din

„Ka Band Propagation Campaign in the Tropical Region of Peninsular Malaysia – First Months of Operation“



# ITU submissions

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**Austria** and European Space Agency (2015)

“Document on Location Dependent variations of Drop size distributions”

ITU-R SG3 Input Document 3J/131-E resp. Document 3M/225-E, received 10 April 2015

## URSI Commission F Selected Activities in the Field of Wave Propagation and Remote Sensing

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# THANK YOU for your attention !