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**Abstract:** Various publications about THz channel modeling have been presented at previous THz Interest Group meetings, at conferences as well as in scientific journals. An overview of the references is given in this presentation, providing input for the technical expectations document 15-11-0745-04-0thz.

**Re:** 15-11-0745-04-0thz-thz-ig-technical-expectations-document-ted.doc

**Purpose:** Summary of previous presentations and publications on THz channel modeling as input for TED

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# Literature on THz Channel Modeling Activities

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# Content

1. Purpose of this Document
2. List of References

# Purpose of this Document

All references in this document provide investigations about channel modeling and shall be included in the technical expectations document (TED) *15-11-0745-04-0thz*.

Also, the content of the referenced presentations and publications shall be summarized briefly in the TED.

# References (1)

## Journal Articles:

- [1] S. Priebe, C. Jastrow, M. Jacob, T. Kleine-Ostmann, T. Schrader, T. Kürner: Channel and Propagation Measurements at 300 GHz. IEEE Transactions on Antennas and Propagation, vol. 59, no. 5, pp. 1688–1698, 2011.
  
- [2] C. Jansen, S. Priebe, C. Möller, M. Jacob, H. Dierke, M. Koch, T. Kürner: Diffuse Scattering from Rough Surfaces in THz Communication Channels. IEEE Transactions on Terahertz Science and Technology, vol.1, no. 2, pp.1688–1698, 2011.

## References (2)

- [3] M. Jacob, S. Priebe, R. Dickhoff, T. Kleine-Ostmann, T. Schrader, T. Kürner: Diffraction in mm and Sub-mm Wave Indoor Propagation Channels. IEEE Transactions on Microwave Theory and Techniques, vol. 60, no. 3, pp. 833–844, 2011.

### **Conference Inproceedings:**

- [4] S. Priebe, M. Jacob, C. Jastrow, T. Kleine-Ostmann, T. Schrader, T. Kürner: A Comparison of Indoor Channel Measurements and Ray Tracing Simulations at 300 GHz.  
In Proc. 35th International Conference on Infrared, Millimeter and THz Waves (IRMMW-THz), 2 pages (electronic), Rome, September 2010.

## References (3)

- [5] S. Priebe, M. Jacob, T. Kürner: Angular and RMS Delay Spread Modeling in View off THz Indoor Communication Systems. Accepted for publication in Proc. 12th URSI Commission F Triennial Open Symposium on Radio Wave Propagation and Remote Sensing, 8 pages, Garmisch Partenkirchen, March 2011.
- [6] S. Priebe, M. Jacob, C. Jansen, T. Kürner: Non-Specular Scattering Modeling for THz Propagation Simulations. In Proc. 5th European Conference on Antennas and Propagation (EuCAP), 5 pages (electronic), Rome, April 2011.
- [7] S. Priebe, M. Jacob, T. Kürner: Polarization Investigation of Rough Surface Scattering for THz Propagation Modeling. In Proc. 5th European Conference on Antennas and Propagation (EuCAP), 5 pages (electronic), Rome, April 2011.

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- [8] S. Priebe, M. Jacob, T. Kürner: AoA, AoD and ToA Characteristics of Scattered Multipath Clusters for THz Indoor Channel Modeling.  
In Proc. 17th European Wireless Conference (EW), 9 pages (electronic), Vienna, April 2011.
  
- [9] S. Priebe, M. Jacob, T. Kürner: The Impact of Antenna Directivities on THz Indoor Channel Characteristics.  
Accepted for publication in Proc. European Conference on Antennas and Propagation (EuCAP), Prague, 5 pages (electronic), March 2012.



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- [10] S. Priebe, M. Jacob, T. Kürner: Affection of THz Indoor Communication Links by Antenna Misalignment. Accepted for publication in Proc. European Conference on Antennas and Propagation (EuCAP), Prague, 5 pages (electronic), March 2012.

## **IEEE Documents:**

- [11] T. Kürner, S. Priebe, M. Jacob, C. Jastrow, T. Kleine-Ostmann, T. Schrader: Measuring the Channel Characteristics at 300 GHz - Preliminary Results. IEEE 802.15-09-0496-01-0thz, San Francisco, July 2009.

## References (6)

- [12] T. Kürner, S. Priebe, M. Jacob, C. Jastrow, T. Kleine-Ostmann, T. Schrader: Measurements of the Channel Characteristics at 300 GHz.  
IEEE 802.15-09-0756-00-0thz, Atlanta, November 2009.
- [13] S. Priebe, M. Jacob, C. Jastrow, T. Kleine-Ostmann, T. Schrader, T. Kürner: Towards a 300 GHz Channel Model.  
IEEE 802.15-10-0436-01-0thz, San Diego, July 2010.
- [14] S. Priebe, M. Jacob, C. Jastrow, T. Kleine-Ostmann, T. Schrader, T. Kürner: Digital Data Transmission at 300 GHz.  
IEEE 802.15-10-0437-01-0thz, San Diego, July 2010.

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- [15] S. Priebe, M. Jacob, T. Kürner: Diffuse Rough Surface Scattering Analysis for THz Communication Systems. IEEE 802.15-11-0146-01-0thz, Singapore, March 2011.
- [16] S. Priebe, M. Jacob, T. Kürner: Spatial and Temporal Dispersion in THz Propagation Channels. IEEE 802.15-11-0180-01-0thz, Singapore, March 2011.
- [17] S. Priebe, M. Jacob, T. Kürner: Stochastic Modeling of Scattered Multipath Clusters in THz Indoor Communication Channels. IEEE 802.15-11-0474-01-0thz, San Francisco, July 2011.

# References (8)

- [18] S. Priebe, M. Jacob, T. Kürner: Will THz Communication Interfere with Passive Remote Sensing?  
IEEE 802.15-12-0101-00-0thz, Hawaii, March 2011.
  
- [19] S. Priebe, M. Jacob, T. Kürner: Performance of Antennas in THz Indoor Communication Channels.  
IEEE 802.15-12-0102-01-0thz, Hawaii, March 2011.

***Thank you for paying attention.***

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