



Figure 9. Impedance profiles of the wet and dry textile transmission line.

lenge to the constructor, which nevertheless must be solved.

Conclusions

There are many methods of implementing a textile transmission line. The choice of the right method depends on the particular application, the frequency range, the cost of production, etc.

As a result of the preliminary study, we found that the humidity of the substrate of the textile transmission line has a significant impact on the ability to transmit signals with a wide spectrum of frequencies. Further work on the development of textile signal lines capable of transmitting the high frequency signals often found in current electronic circuits and also resistant to ambient parameters, mechanical stresses and periodic maintenance service will have a crucial impact on the development of the textronic garment.



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Technical University of Lodz Faculty of Material Technologies and Textile Design

Department of Clothing Technology and Textronics

The Department was established in 2009, combining the departments of: Clothing Technology and Automation of Textile Processes.

The Department offers research and cooperation within the following fields:

- physical and biophysical properties of clothing (modelling the microclimate under clothing packages)
- creating a basis for engineering fashion design (e.g. actions to improve design processes)
- unconventional structures of clothing with regard to use and manufacturing
- analysis of the operating conditions of machines for clothing production (e.g. optimisation of the gluing parameters process working conditions of sewing threads)
- creating analysis and design processes for the industrial production of garments
- basic problems of general and technical metrology
- instrumentation of measurements, the construction of unique measurement device and system
- measurement and control computer systems, including virtual instruments of the fourth generation
- textronics as synergetic connecting textile technologies with advanced electronic systems and computer science applied in metrology and automatics
- identification of textile and clothing objects with the use of advanced microprocessor measurement techniques
- modelling of objects and their computer simulation, methods of experimental research, especially experiment design of experiments and computer analysis of results

The Department is active in the following educational and scientific fields: textile engineering, pattern design, education of technology and information engineering, materials engineering, health and safety at work, and logistics.

For more information please contact:

Department of Clothing Technology and Textronics
Technical University of Lodz
ul. Żeromskiego 116, 90-924 Łódź, Poland
tel.: (48)(42) 631-33-21
e-mail: maria.kwiatkowska@p.lodz.pl
web site: <http://www.clotex.p.lodz.pl/>