



Dutch
Metrology
Institute

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About VSL

VSL is part of First Dutch Innovations and has over a hundred passionate employees. We develop and manage national measurement standards on behalf of the Dutch government. We ensure that these are among the best in the world and are internationally accepted. We also provide customer calibrations, customized projects, reference materials, interlaboratory comparisons and training.

As a national metrology institute (NMI), we make the measurement results of companies, laboratories and institutions directly traceable to international standards. VSL thus makes an important contribution to the reliability, quality and innovation of products and processes in business and society.

You will work within the Electricity group. Here we provide extensive measuring expertise to manufacturers of measuring equipment, energy companies, universities and (accredited) calibration laboratories. We also work on various research projects in a European context, including the field of smart grids.

Electrical Energy

Advances in electronics, and the growth of electric vehicle chargers and renewable energy, have led to an increasing amount of interference in the so-called “supraharmonic” range of 2 to 150 kHz. This interference is not regulated but causes serious concern with utilities and product manufacturers. For frequencies in the range 2 to 9 kHz, power quality analysers use the method described in IEC 61000-4-7. For laboratory measurements in the range 9 to 150 kHz receivers based on the CISPR 16 method is used. This project aims to develop new normative measurement techniques to enable regulation of interference caused by mass-market electrical goods. To endorse the proposed method, compatibility with the existing methods should be demonstrated by a comparison in the laboratory.

In the context of this project, we are looking for a student working with us to validate our new full grid measurement system with a laboratory testbed using non-stationary test waveforms. Moreover, with the new measurement method in the 9 – 150 kHz frequency range, several selected household appliances will be measured to compare with the measurement data using CISPR16 method. The comparison results can be shown as a complex ratio spectrum, or another metric or performance index. The student will be asked to operate the VSL set-ups, execute the measurement campaign and process the measurement data. Additionally, providing suggestions or implementing improvements to the VSL measurement set-ups would be a bonus.

The graduation project will take place in Delft at the VSL premises. An internship fee of 475 euro per month gross will be made available.

For more information, please contact Helko van den Brom (hvdbrom@vsl.nl).