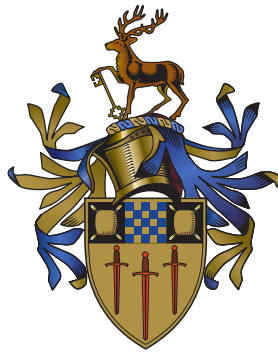


MEASUREMENT UNCERTAINTY IN NON-LINEAR
BEHAVIOURAL MODELS OF MICROWAVE
POWER AMPLIFIERS

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A thesis submitted in partial fulfillment for the degree
of Doctor of Philosophy

in the
Advanced Technology Institute and Department of
Electronic Engineering
Faculty of Engineering and Physical Sciences
University of Surrey

September 2017

Declaration of Authorship

I confirm that the submitted work is my own work and that I have clearly identified and fully acknowledged all material that is entitled to be attributed to others (whether published or unpublished) using the referencing system set out in the programme handbook. I agree that the University may submit my work to means of checking this, such as the plagiarism detection service Turnitin UK. I confirm that I understand that assessed work that has been shown to have been plagiarised will be penalised.

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Laurence Stant (Author)

Date

*“What error drives our eyes and ears amiss? Until I know this sure uncertainty
I’ll entertain the offered fallacy.”*

William Shakespeare, The Comedy of Errors

*“That’s right!” shouted Vroomfondel, “we demand rigidly defined areas of doubt
and uncertainty!”*

Douglas Adams, The Hitchhikers Guide to the Galaxy

Abstract

Abstract goes here

Research Outcomes

Publications

- [1] L. Stant, P. Aaen, and N. Ridler, “Evaluating residual errors in waveguide network analysers from microwave to submillimetre-wave frequencies,” in *IET Colloquium on Millimetre-Wave and Terahertz Engineering [amp] Technology 2016*, Institution of Engineering and Technology (IET), 2016. DOI: 10.1049/ic.2016.0016.
- [2] —, “Comparing methods for evaluating measurement uncertainty given in the JCGM ‘evaluation of measurement data’ documents,” *Measurement*, vol. 94, pp. 847–851, Dec. 2016. DOI: 10.1016/j.measurement.2016.08.015.
- [3] —, “Evaluating residual errors in waveguide VNAs from microwave to submillimetre-wave frequencies,” *IET Microwaves, Antennas & Propagation*, vol. 11, no. 3, pp. 324–329, Feb. 2017. DOI: 10.1049/iet-map.2016.0455.

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I want to thank...

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1 Introduction

Testing, testing[1], [2].

Bibliography

- [1] L. Stant, P. Aaen, and N. Ridler, “Evaluating residual errors in waveguide network analysers from microwave to submillimetre-wave frequencies,” in *IET Colloquium on Millimetre-Wave and Terahertz Engineering [amp] Technology 2016*, Institution of Engineering and Technology (IET), 2016. DOI: 10.1049/ic.2016.0016.
- [2] —, “Comparing methods for evaluating measurement uncertainty given in the JCGM ‘evaluation of measurement data’ documents,” *Measurement*, vol. 94, pp. 847–851, Dec. 2016. DOI: 10.1016/j.measurement.2016.08.015.

2 Uncertainty

Testing, testing2[1].

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- [1] L. Stant, P. Aaen, and N. Ridler, “Evaluating residual errors in waveguide VNAs from microwave to submillimetre-wave frequencies,” *IET Microwaves, Antennas & Propagation*, vol. 11, no. 3, pp. 324–329, Feb. 2017. DOI: 10.1049/iet-map.2016.0455.