

INNOVUS

CONTACT

OFFICE: +27 (21) 808 3826
FAX: +27 (21) 808 3913
EMAIL: info@innovus.co.za

InductEx Software

Innovus Technology Transfer (PTY) Ltd is Stellenbosch University's wholly-owned technology transfer company. Contact Anita Nel, Innovus Chief Executive Officer, on (021) 808 3826 or send an email to ajnel@sun.ac.za for more information.



Extraction software with high accuracy and extremely fast calculations of Inductance for three-dimensional structures.



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BRIEF DESCRIPTION

Inductance calculations are very important for designing both digital and analogue superconductive integrated circuits. Currently, several software based methods or programmes such as Lmeter, 3D-MLSI and FastHenry, are used to calculate inductance in integrated circuits. However, the above mentioned programmes suffer from a variety of problems including that they cannot handle three-dimensional networks, are very slow, cannot handle mutual inductance and/or multi-terminal network inductances or a combination of these. Therefore, researchers at Stellenbosch University developed a circuit network inductance extraction programme for superconductive integrated circuits.

InductEx software uses a point-to-point freeware solver in a unique and clever way to solve multi-terminal inductance networks faster and more accurately than ever before. It finally gives superconductive circuits designers the power to calculate the inductance of modern multi-layered circuits structures for advanced applications.

TARGET MARKET

- Superconductive circuit designers
- Software developers catering for the superconductivity community

VALUE PROPOSITION/BENEFITS

This innovative technology offers accurate, extremely fast calculations of inductance for three-dimensional structures compared to others software programmes, and can handle larger and more complex structures than other programmes.

UNIQUE CHARACTERISTICS

The extraction software was verified against measured results, making it reliably accurate. It is two orders of magnitude faster than current 3D extraction software for superconductive circuits.

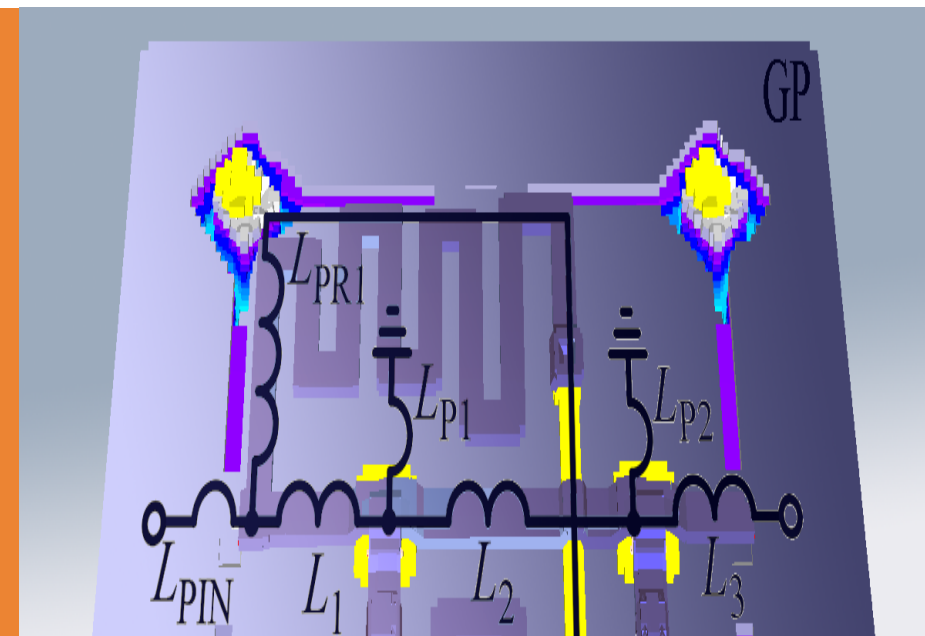
TECHNICAL DESCRIPTION

The standalone software runs as a console/terminal application with which to extract accurate and fast results for the self and mutual inductance of superconductive integrated circuit layouts. Inputs and outputs from files allow easy integration into any commercial CAD software for electronic circuit design and layout. Faster than conventional 3D methods, this 3D solver finds inductance even in the presence of ground plane feature and non-planar geometries.

INNOVATION STATUS

A PCT application (patent no. PCT/IB2012/051080) has been filed for this innovation.

A unique and clever way to solve multi-terminal inductance networks faster and more accurately than ever before



PRINCIPAL RESEARCHERS

Prof C. J. Fourie, Department of Electrical and Electronic Engineering, Stellenbosch University