

[IEEE.org](#) | [IEEE Xplore Digital Library](#) | [IEEE Standards](#) | [IEEE Spectrum](#) | [More Sites](#)Source of Acquisition
NASA Glenn Research CenterAccess provided by:
NASA Langley Research Center
Sign Out[Browse Conference Publications](#) > [Vacuum Electronics Conference ...](#)

A simulated annealing algorithm for the optimization of multistage depressed collector efficiency

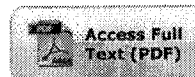
This paper appears in:

Vacuum Electronics Conference, 2002. IVEC 2002. Third IEEE International

Date of Conference: 2002**Author(s):** Vaden, K.R.

NASA Glenn Res., Cleveland, OH

Wilson, J.D. ; Bulson, B.A.

Page(s): 164 - 165**Product Type:** Conference Publications**ABSTRACT**

The microwave traveling wave tube amplifier (TWTA) is widely used as a high-power transmitting source for space and airborne communications. One critical factor in designing a TWTA is the overall efficiency. However, overall efficiency is highly dependent upon collector efficiency; so collector design is critical to the performance of a TWTA. Therefore, NASA Glenn Research Center has developed an optimization algorithm based on Simulated Annealing to quickly design highly efficient multi-stage depressed collectors (MDC).

INDEX TERMS**• IEEE Terms**

Algorithm design and analysis , Design optimization , Electromagnetic heating , Electrons , High power amplifiers , Microwave amplifiers , NASA , Simulated annealing , Space exploration , Space heating

• INSPEC◦ **Controlled Indexing**

simulated annealing , travelling wave amplifiers

◦ **Non Controlled Indexing**

design optimization , microwave traveling wave tube amplifier , multistage depressed collector efficiency , simulated annealing algorithm

[Additional Details](#)[Citing Documents \(3\)](#)**On page(s):** 164**Print ISBN:** 0-7803-7256-5**INSPEC Accession Number:** 7360857**Digital Object Identifier :** 10.1109/IVELEC.2002.999316**Date of Current Version :** 07 August 2002**Issue Date :** 2002[Sign In](#) | [Create Account](#)**IEEE Account**[Change Username/Password](#)[Update Address](#)**Purchase Details**[Payment Options](#)[Order History](#)[Access Purchased Documents](#)**Profile Information**[Communications Preferences](#)[Profession and Education](#)[Technical Interests](#)**Need Help?****US & Canada:** +1 800 678 4333**Worldwide:** +1 732 981 0060[Contact & Support](#)[About IEEE Xplore](#) | [Contact](#) | [Help](#) | [Terms of Use](#) | [Nondiscrimination Policy](#) | [Site Map](#) | [Privacy & Opting Out of Cookies](#)

A non-profit organization, IEEE is the world's largest professional association for the advancement of technology.

© Copyright 2012 IEEE - All rights reserved. Use of this web site signifies your agreement to the terms and conditions.