

**PACKAGE ID** - 001308MC68H00 TVFMCATS

**KWIC TITLE** - Time Variant Floating Mean Counting Algorithm

**AUTHORS** - Huffman, R.K.  
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**LIMITATION CODE** -COPY                   **AUDIENCE CODE** - LIM

**COMPLETION DATE** - 06/16/1999   **PUBLICATION DATE** - 05/01/1999

**DESCRIPTION** - This software was written to test a time variant floating mean counting algorithm. The algorithm was developed by Westinghouse Savannah River Company and a provisional patent has been filed on the algorithm. The test software was developed to work with the Val Tech model IVB prototype version II count rate meter hardware. The test software was used to verify the algorithm developed by WSRC could be correctly implemented with the vendor's hardware.

**PACKAGE CONTENTS** - Media Directory; Software Abstract; Supporting Software Documentation; Media Includes Executables;

**SOURCE CODE INCLUDED?** - No

**MEDIA QUANTITY** - 1 CD Rom

**METHOD OF SOLUTION** - Embedded Controller Test Software

**COMPUTER** - MOTOROLAMC68HC1

**OPERATING SYSTEMS** - None

**PROGRAMMING LANGUAGES** - na

**SOFTWARE LIMITATIONS** - The software is limited to counting radiation pulses, storing data on a removable data card, and driving an analog display to indicate current values.

**SOURCE CODE AVAILABLE (Y/N)** - N

**UNIQUE FEATURES** - The counting algorithm tested in this software is a unique method of counting pseudo random events (gaussian distributed events) It has practical applications at WSRC with radiation counting instruments. The algorithm was developed by WSRC and implemented on a vendor supplied radiation count meter. This algorithm differs from existing methods in that it offers better accuracy and stability at lower measurement values, offers a time response that is proportional to the measured rate (i.e. the response time increases as the radiation field becomes higher) and ensures sufficient data has been collected to produce statistically accurate measurements.

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**UNIQUE FEATURES - (CONT)**

**RELATED SOFTWARE** - Data retrieval requires an RS232 data terminal (Such as the Microsoft Hyperterminal).

**OTHER PROG/OPER SYS INFO** - This program was written for the new Micros NMIX0020 embedded controller with peripheral I/O card, memory expansion card, PCMCIA adapter, 2 Mbyte SRAM data card, and Val Tech IVB prototype version II count rate meter.

**TIME REQUIREMENTS** - Continuous

**REFERENCES** - Microprocessor Implementation of a Time Variant Floating Mean Counting Algorithm, Russell Kevin Huffman.

**ABSTRACT STATUS** - Released AS-IS 9/24/1999.

**SUBJECT CLASS CODE** - Z

**KEYWORDS** -

COMPUTER PROGRAM DOCUMENTATION  
T CODES  
GAUSS FUNCTION  
ALGORITHMS

**EDB SUBJECT CATEGORIES** -  
990200

**SPONSOR** - DOE/DP

**PACKAGE TYPE** - AS - IS