

PACKAGE ID - 001270MMVME00 LNFCS

KWIC TITLE - Liquid Nitrogen Fill Control System

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LIMITATION CODE -COPY **AUDIENCE CODE** - UNL

COMPLETION DATE - 08/12/1998 **PUBLICATION DATE** - 12/01/1998

DESCRIPTION - The Liquid Nitrogen Fill Control System controls the periodic filling of Germanium detector dewars with liquid nitrogen, as well as, filling portable LN2 supply tanks with liquid nitrogen from a high pressure LN2 storage tank. LNFCS major features are: Remote access, Fills detectors periodically, Monitors fills and logs results, Fully adjustable set of preferences, Graphical interface, Fully operational by command line entry, Senses if LN2 flow has stopped after fill, Individual detector fills without interrupting periodic fill, Automatic repeat fill when detectors fail to fill, Automatic filling of supply tank when 2 or more detectors fail to fill, Easy addition/deletion of detectors from fill cycle, Authorized access only, No clogging by ice of LN2 flow.

PACKAGE CONTENTS - Media Directory; Software Abstract; User's Manual; Media Includes Source Code, Compilation Instructions, Linking Instructions;

SOURCE CODE INCLUDED? - Yes

MEDIA QUANTITY - 1 3.5 Diskette

METHOD OF SOLUTION - I/O analog boards were used to monitor and operation hardware, arithmetic logic was used.

COMPUTER - MOTOROLA MVME

OPERATING SYSTEMS - Motorola Systems, Unix System V/88kR40V4.3

PROGRAMMING LANGUAGES - C

SOFTWARE LIMITATIONS - Software only allows the owner full access, which means only the owner can operate the fill or make changes to preferences. Non-owners can monitor the operations only. All hardware must be in place for full operation.

SOURCE CODE AVAILABLE (Y/N) - Y

UNIQUE FEATURES - This software was designed to keep Germanium detectors cold with a minimum of attention or no attention. This system ran unattended for 4 months in the summer in Chicago without a failure. The only reason it was stopped was that the experiment

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UNIQUE FEATURES - (CONT) was over. Throughout the experiment the system was monitored in Idaho over the internet.

HARDWARE REQS - 16Mb RAM, UNIX, Device driver for MVME901 & MVME914.

TIME REQUIREMENTS - Actual software start up is < 1 minute, filling of detectors is size of dewar dependent.

REFERENCES - Edward L. Reber, Liquid Nitrogen Fill Control System (LNFCS) User Manual, December 1998.

ABSTRACT STATUS - Released AS-IS 1/14/1999

SUBJECT CLASS CODE - T

KEYWORDS -

COMPUTER PROGRAM DOCUMENTATION
I CODES
CONTROL EQUIPMENT
NITROGEN

EDB SUBJECT CATEGORIES -
990200

SPONSOR - DOE/DP

PACKAGE TYPE - AS - IS