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Dr. Rick Van Kootnen
Chair, Fermilab Physics Advisory Committee
Fermilab,
Batavia,
Illinois
U.S.A.

Monday, 4 October 2010

RE: LETTER OF SUPPORT FOR COUPP-500 DETECTOR PROPOSAL

Dear Dr. Van Kooten,

I write, as SNOLAB Director, with reference to the proposal for the next generation COUPP-500 dark matter detector, which I understand the Fermilab PAC will be reviewing forthwith.

As you will be aware, the SNOLAB facility has been developed over the last few years, based on the success of the original SNO experiment, by expanding the available space for underground detectors in our 2km deep, clean, laboratory at the Creighton mine in Sudbury, Ontario. One of the major focuses of the science programme at SNOLAB is the development of direct search experiments for particulate Galactic dark matter, which benefit from the low background environment we can provide.

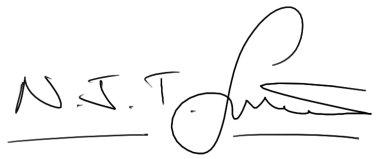
The COUPP programme has made significant advances in the development of the superheated fluid bubble chamber technologies, and their application as dark matter targets. SNOLAB is pleased it has been able to support the various stages of the COUPP programme approved so far, with the COUPP-4 detector now installed underground at SNOLAB and imminently taking physics data. Plans are well advanced for the deployment of the COUPP-60 detector at SNOLAB, which has been scientifically approved by the facility, following review by our Experiment Advisory Committee. It would therefore be natural for any development of the COUPP programme to exploit the connections already made with SNOLAB, and to locate these larger systems here.

Although SNOLAB has not yet received a letter of intent for the COUPP-500 detector, the Experiment Advisory Committee has reviewed the COUPP-4 and COUPP-60 detectors and has encouraged SNOLAB to support their deployment. I would therefore encourage and welcome, at the appropriate time, submission of a letter of intent to SNOLAB for this larger scale detector. Should COUPP-500 be approved for deployment at SNOLAB based on its scientific merit, we would then work with the collaboration to complete the required documentation, deployment and location plans, safety reviews and assessments prior to deployment.

The support that SNOLAB provides to approved experiments includes access to the deep, clean, laboratory, basic infrastructure to support the installation, reasonable standard utility costs, access to design engineering resources, access to operations and logistical support, clean-room laboratory space and services within the surface building, potential, and encouraged, involvement with the SNOLAB science research team and the ability to interact and collaborate with other research groups on site. The latter point would allow the continued development of the collaboration between the COUPP and PICASSO collaborations in progressing to large-scale superheated fluid detectors.

I am therefore pleased to be able to express our support for the development of the COUPP programme and, caveat the approval and review processes mentioned above, would look forward to working with the collaboration in the future.

Sincerely yours,



Nigel J.T. Smith
Director, SNOLAB