## 2014 CAP Congress / Congrès de l'ACP 2014



Contribution ID: **397** compétition)

Type: Poster (Student, In Competition) / Affiche (Étudiant(e), inscrit à la

## In Situ Optical Calibration of MiniCLEAN

Wednesday 18 June 2014 19:20 (2 minutes)

The MiniCLEAN dark matter experiment will exploit a single-phase liquid-argon detector instrumented with 92 photomultiplier tubes placed in the cryogen temperature with  $4-\pi$  coverage of a 500 kg (150 kg) target (fiducial) mass. The detector design strategy emphasizes scalability to target masses of order 10 tons or more. The detector is designed also for a liquid-neon target that allows for an independent verification of signal and background and a test of the expected dependence of the WIMP-nucleus interaction rate. For MiniCLEAN, PMT stability and calibration are essential. The optical calibration will be able monitor the PMT stability and maintain the calibration. In MiniCLEAN, we use a Light-Emitting Diode(LED)-based light injection system to provide single photons for calibration, the calibration can be performed in near real-time, providing a continuous monitor at the condition of the detector.

Author: Mr JUI-JEN, Wang (University of New Mexico)

Presenter: Mr JUI-JEN, Wang (University of New Mexico)

Session Classification: PPD Poster Session, with beer (7) / Session d'affiches PPD, avec bière (7)

Track Classification: Particle Physics / Physique des particules (PPD)