

Research Report

ICRR Inter-University Research Program 2020

Research Subject:

Study for Galactic CR origin using the ALPACA air shower array in Bolivia

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Summary of Research Result :

Due to the COVID-19, Japanese members could not visit the site and the construction of the array delayed. Although in the limited activity in Bolivia, infrastructure works progressed. Cable drains are reinforced with concrete base, bricks and concrete covers (Figure 1 left two). A long-distance Wifi antenna is installed and it enables connection to/from the site in the nearby El Alto town.

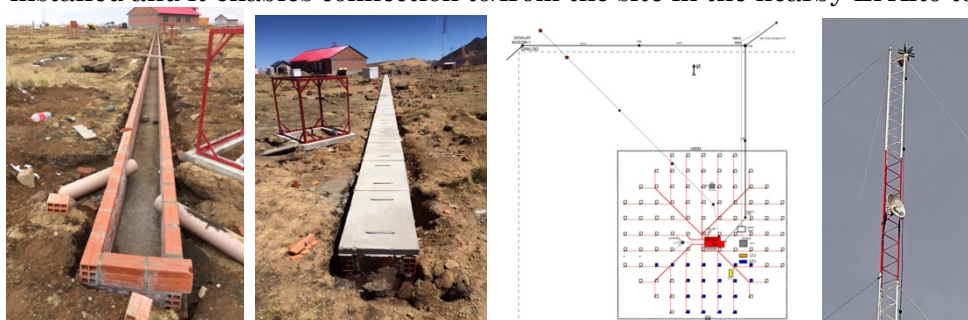


Fig.1 Reinforced cable drain without and with covers. Array map with the drain lines. (right) lightning rod and a long distance Wifi Antenna.

The design of the muon detector was discussed by weekly online meetings and the base design is fixed with a help of architects in UMSA. It will be ready for public call in early FY2021. New PMTs are purchased to test dynamic range to be used for the wide range PMTs. Test is ongoing at ICRR.

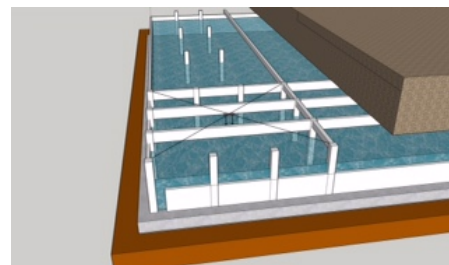


Fig.2 Architect's design of the underground muon detector pool

No.