

Development of CMU Master Board for Chang Van Mobile Neutron Detector

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Chiang Mai University operates the “Chang Van” mobile neutron detector, a twin model of the “Thimon” (Thailand-Hawaii Neutron Monitor). Over the years, we have successfully conducted multiple expeditions aboard icebreaker ships, supported by the Polar Research Institute of China and the Korea Polar Research Institute, to both the Arctic and Antarctic regions as part of the Latitude Survey Project. During our most recent expedition, we identified a significant challenge that the electronic board of Chang Van was found to be highly susceptible to harsh operating conditions, with no spare replacements available, posing risks to mission continuity. To overcome this limitation and ensure the detector’s reliability in extreme environments, we are developing the CMU Master Board for the Chang Van mobile neutron detector. We aim to enhance its durability and performance by integrating cutting-edge technology and components. This research work was supported by Pre-Technology Incubation Grant from Science and Technology Park, Chiang Mai University.

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