

Evaluation of Environmental and Logistic Conditions at Yushan Station in Taiwan for an Outdoor Radiation Calibration Facility

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There is a critical need for atmospheric radiation calibration in Taiwan. In this presentation, we purpose to set up an outdoor radiation calibration facility at Yushan weather station (23.49°N, 120.95°E; 3858m), which is the highest site in Taiwan, as well as in East Asia. The site is located within the free troposphere and can prevent aerosol (air pollutants) from local influences. The site is located on the mountain peak, which provides a wide open sky for radiation measurements. Considering to the solar position, the early summer to autumn will be the best seasons for outdoor radiation calibration. According to our historical measurements, we frequently observed showers in the summer afternoon and clear sky days in autumn. There are several logistic issues making site operation challenging. First, this is not a vehicle reachable site. Eight hours climbing one way is required. Therefore, how to ship instruments to the site could be a problem that may need to be solved. Second, we rely on solar power as the only electrical source. The power issue will be discussed in this presentation. We are planning to set up the facility by this summer and start to operate calibration procedure this autumn.

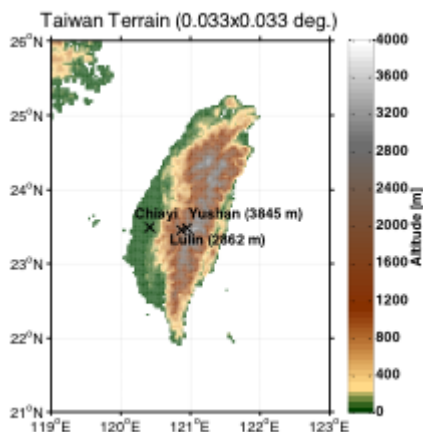


Figure 2. Photo of Yushan Weather station

Figure 1. Geographic location of Mt. Yushan and the Yushan weather station.