

# Radio Telescope Development Kit for Education

**A. Komthuum\*, N. Prasert, K. Asanok and P. Jaroenjittichai**

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National Astronomical Research Institute of Thailand (Public Organization), Princess Sirindhorn AstroPark 260 Moo 4, T. Donkaew, A. Maerim, Chiangmai, 50180, Thailand.

\* Corresponding author. E-mail address: aegrat@narit.or.th

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**Abstract.** A radio telescope development kit has been developed to facilitate science and engineering learning in many topics such as celestial sphere and coordinates, stars and blackbody radiation, mechanics and control systems, digital signal processing and programming. This development kit has been designed as a low-cost with a small satellite dish and can be assembled by yourself (or DIY system). Its receiver system is designed to detect radio signals in the frequency range between 10.7 GHz and 11.7 GHz from the well known celestial sources such as the Sun and the Moon. Software Defined Radio (SDR) is used to receive and send their radio signals to Raspberry Pi for signal processing using GNURadio. The antenna uses to collect radio signals has a beamwidth of about 5 degrees. It can move from 0 to 90 degrees in elevation and 0 to 360 degrees in azimuth, which is also controlled by Raspberry Pi. Here, we report the progress of the development.

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