

SPACE EDUCATION AND OUTREACH SYMPOSIUM (E1)
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PULSE@PARKES; ENGAGING HIGH SCHOOL STUDENTS IN HANDS-ON RADIO ASTRONOMY

Abstract

PULSE@Parkes is an innovative educational program run by Australia's CSIRO in which high school students control the iconic 64m Parkes radio telescope in real time remotely to observe pulsars. Students then analyse their data using online modules. A key component of the program is the opportunity for students to meet and interact with professional astronomers and PhD students. Since its inception in 2007 over 1600 students from across Australia and internationally have participated. The challenges involved in developing an educational, hands-on radio astronomy program at an appropriate level for high school students are addressed. It has evolved in response to the available technology both for remote observing and that which students can readily access. The use of program data for educational purposes including within an observing session and for on-going student investigations is explored. The data has also been used by CSIRO astronomers in scientific research and the value of this is identified. The Parkes radio telescope is now a key facility in the Breakthrough Listen project seeking extraterrestrial intelligence. Preliminary steps in using what has been learnt from PULSE@Parkes to develop a similar SETI-focussed educational experience are outlined. Possibilities for an expanded regional or global network of radio astronomy facilities being available for educational use and engagement are discussed.