

THE COSMIC RAY OBSERVATORY PROJECT – A STATEWIDE EDUCATION AND OUTREACH EXPERIMENT IN NEBRASKA, USA

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The Cosmic Ray Observatory Project (CROP) is a statewide education and research experiment which involves Nebraska high school students, teachers, and college undergraduates in the study of extended cosmic-ray air showers. A network of high school teams construct, install, and operate school-based detectors in coordination with University of Nebraska physics professors and graduate students. The detector system at each school is an array of acrylic scintillation counters in weather-proof enclosures on the school roof, with a GPS receiver providing a time stamp for cosmic-ray events. The detectors are connected to triggering electronics and a data-aquisition PC inside the building. Students share data via the Internet to search of time coincidences with other sites. Funded by the U.S. National Science Foundation, CROP enlisted its first 5 school teams in the summer of 2000, with the aim of expanding to the 314 high schools in the state over several years. The organization of the project and its scientific potential will be discussed. Preliminary measurements from CROP's pilot schools and results from the assessment of CROP's educational impact will be presented. Similar school-based cosmic-ray efforts in the U.S. and Europe will also be described.