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Plans for CHICOS - a detector array in California High Schools

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Abstract. The California HIgh school Cosmic ray ObServatory, CHICOS, is a collabora-tive project involving Caltech, Cal State Northridge, UC Irvine, and local high school physics teachers to site a large array of particle detectors at high schools in the Los Angeles area. The Los Angeles basin is quite unique in that there is a very large area (> 5000 km^2) of uniformly dense population with available high school infrastructure. We have obtained 164 scintillation detectors from the decommissioned CYGNUS experiment in New Mexico, and are presently working to instrument these detectors in an array with area of more than 400 km^2. Each site will have a detection system with a computer to acquire data, and will operate in an autonomous mode using GPS time-stamping of events. The data from each site will be transmitted via internet to a central computer at Caltech where the data will be logged, processed, and accessible to the high schools. The availability of existing infrastructure in the Los Angeles school system with internet connections, power, and shelter provides an excellent op-portunity to develop such a large array. In the future we would like to expand the scope of this project to cover a larger fraction of the Los Angeles area and include a much larger percentage of the high schools, hopefully increasing the area to over 1000 km^2.

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