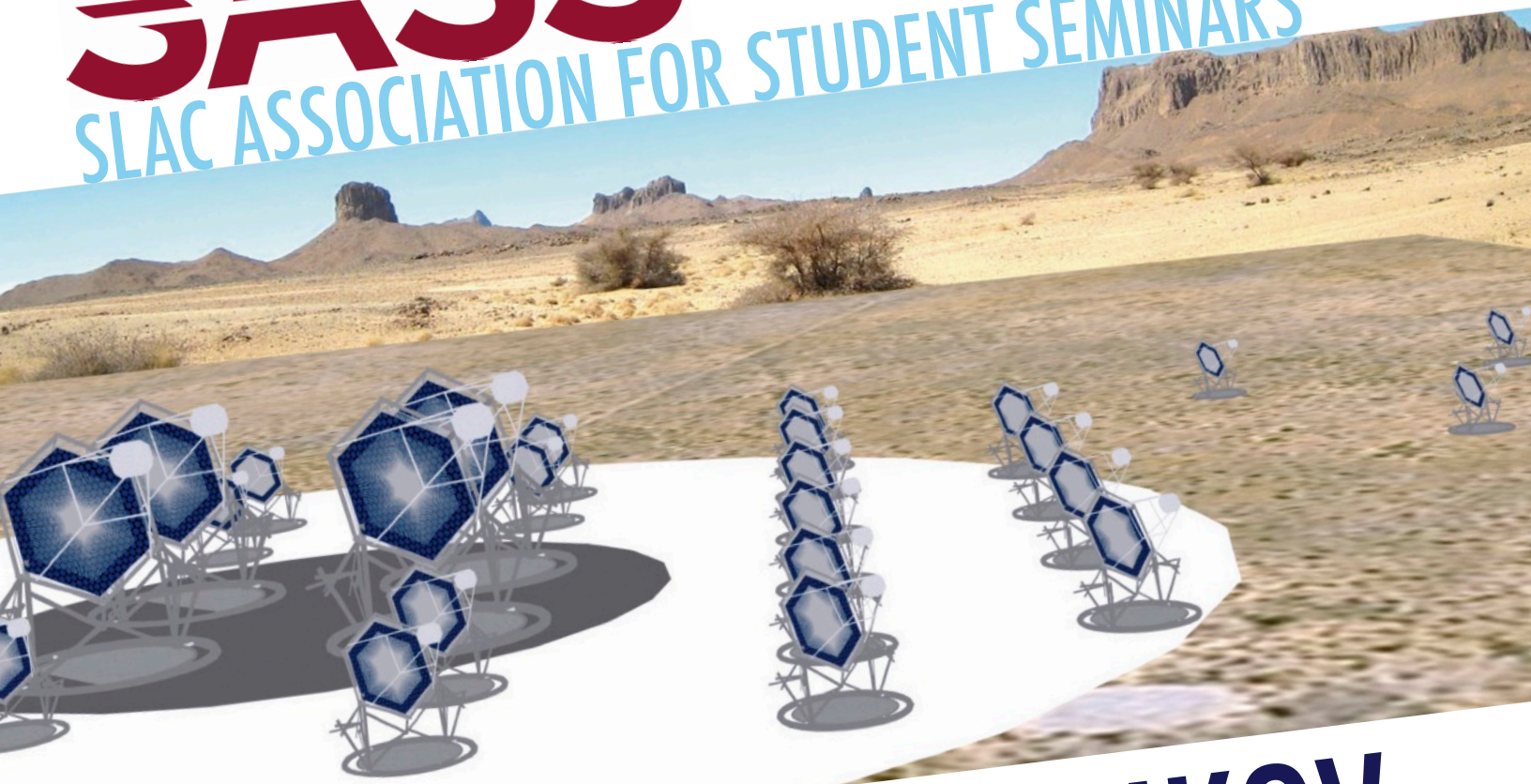
SASS

SLAC ASSOCIATION FOR STUDENT SEMINARS



JUNE 1 AT 12:30

KAVLI 3RD FLOOR CONFERENCE ROOM

BY MANUEL PAZ

CHERENKOV TELESCOPES

Gamma rays coming from outer space are shielded by the Earth's atmosphere, avoiding a direct detection on the ground. This, together with the fact that the spectrum of gamma rays falls as a power-law with increasing energy, requiring instruments with large detection areas in order to collect enough statistics, makes astronomy at those wavelengths quite of a challenge. Cherenkov telescopes have proven to be an excellent alternative to satellite missions, for the energy range of ~100 GeV to ~100 TeV. By imaging the Cherenkov light produced by the secondary particles produced when a gamma ray interacts in the atmosphere, they reach a sensitivity of a few percent of the Crab flux in ~20 hours at low zenith angles, and an angular resolution of ~0.1 deg, making them very suitable for observing astronomical sources at that energy range.

In my presentation I will review the detection technique of Cherenkov telescopes, and I will show some of the results obtained with this technique.