**1952** [**eclipse expedition**](http://www.hao.ucar.edu/hao/history/eclipses.html) **to Khartoum, Sudan.**   
In collaboration with the Naval Research Laboratory, HAO observed the 25 February 1952 eclipse in Khartoum with a spectrograph. A large number of spectrograms were obtained by the eclipse team of Jack Evans, Robert Cooper, and Robert Lee.

This remarkable eclipse experiment -- the most advanced of its kind at that time -- studied the spectrum of elements present in the solar chromosphere with unprecedented height discrimination and high spectral resolution. The spectra provided the first experimental evidence for the newly developed concept of non-local thermodynamic equilibrium conditions in the solar atmosphere. Results from the experiment formed the basis for numerous publications at HAO and elsewhere in the 1953 - 1960 period and, in fact, provided the impetus for HAO to develop into a broad, research-oriented institution.