a single frequency will be required to separate the components of compound and complex events and to obtain the spectra. The currently used nomenclature will be related to pending recommendations of IAU Commission 10.

Q2 Convective Flux in the Solar Photosphere as Determined From Fluctuations. F. N. EDMONDS, JR., Department of Astronomy, U. of Tex., at Austin. - The fractional convective flux \( \Phi_F \) is computed for the effective level \( x_\text{eff} = 0.125 \) using bi-dimensional co-spectra for relative continuum-brightness fluctuations \( \Delta I \) and radial velocity fluctuations \( \Delta V \) measured for the CI 5052.16 spectral line. A more uncertain flux for \( x_\text{eff} \approx 0.9 \) is obtained for the FeI 5049.83 line. Since the results incorporate current uncertainties in \( \text{RMS}_I, \text{RMS}_V \), and \( \text{RMS}_F(x) \), where \( \Delta I \) are photospheric temperature fluctuations, \( \Delta V \) are line profile fluctuations, \( \Phi_F \) must be considered qualitative until these uncertainties are appreciably reduced. The requirement that the fractional convective fluxes be consistent with the non-local, generalized mixing-length theory of Spiegel and with the non-local theory of Ulrich cannot be considered as observational confirmation of these theories.

Q3 Observations of Velocity and Intensity Fluctuations in Solar Granulation. S. MUSMAN, Sacramento Peak Observatory, Air Force Cambridge Research Laboratories. - A small region at the center of the solar disk is scanned photographically using the Sacramento Peak Vacuum Tower Telescope, Echelle spectrophotography, and Diode Array. At each point of a 24 x 24 raster with 0.4 arcsecond (400 km) spacing a 1A spectral region near 5016 Å containing three weak photospheric lines was scanned in 1/40 Å increments. Velocity fluctuations measured in these lines together with continuum intensity fluctuations will be presented in movie form. The time lags between velocity and intensity fluctuations raise some interesting questions of physical interpretation.

Q4 Physical Conditions in Granulation. R.C. ALTSTROM & S. MUSMAN, Sacramento Peak Observatory. - We report on the analysis of high-resolution spectroheliograms made in the Tl I and Fe I 5016 Å lines with the Diode Array of the Tower Telescope at Sacramento Peak Observatory. A 10 x 10 region was scanned with 1 Å resolution, and the line profiles of 3 bright and 3 dark areas were chosen for analysis. Temperature perturbations were introduced into the HSRA and varied empirically until the calculated line profiles matched the observed profiles. We find that \( \Delta T \) decreases going upward from the low photosphere, reaching a value of \( -100 \text{ K} \) in the middle photosphere (\( <200 \text{ km above } Z_\text{photosphere} \)). The amplitude of \( \Delta T \) at 20 km below \( Z_\text{photosphere} \) is 1-20 K for the bright areas and \( -200 \pm 30 \text{ K} \) for the dark areas. The value of \( d\Delta T/dz \) is \( 8 \pm 1.0 \text{ K km}^{-1} \) for the bright areas and \( 1.8 \pm 0.3 \text{ K km}^{-1} \) for the dark areas. The \( \Delta T \) model of Wilson (Solar Phys. 2, 303, 1969) is incompatible with our data. The model for all three dark areas and one bright area indicate a change in sign of \( \Delta T \) at heights of 40-100 km. This behavior is consistent with the change in sign at heights of 160