SCIENCE, Houston, Texas 77004 - A growing interest in solar energy has generated a demand for more information. Also one of the major causes of the current energy problem is the naivete exhibited by the general public. In response to an indicated interest, the planetarium added a solar energy course to its continuing adult education program-summer program which is presented in cooperation with the university. This offering also provided an immediate parallel program to the solar energy planetarium show for those who wanted more information. In an attempt to satisfy these needs, the authors institutions offered this fee paid contemporary science seminar in solar energy. This seminar consists of four, two hour evening sessions. The purpose is to provide an introduction to energy alternatives. The first session considers the sun as the primary energy source, including solar astronomy and seasonal aspects which are illustrated using the planetarium chamber. The second session considers collection, utilization, heating, and cooling. The third session considers solar thermal, ocean thermal, and photovoltaics. The fourth session considers a potpourri of areas, namely wind, biomass, geothermal, and some comments on nuclear. Extensive use is made of audio-visual materials. Content and merit are evaluated on the basis of public response, interest, and information transfer. Suggestions on integrating this type of program or the subject matter into general astronomy curriculum will be presented.

07.10.11 Astronomy and Solar Energy - A Planetarium Show. CAROLYN SUMMERS, Burke Baker Planetarium, Houston Museum of Natural Science and ARTHUR T. MATTES III, Solar Energy Laboratory, University of Houston, Houston, Texas 77004 -- In addition to the continuing public interest in astronomy, a growing awareness of the energy problem and the potential of solar energy has produced some demand for more background in the latter. Also a planetarium provides a unique environment in which to introduce energy concepts to the rest of the general public and tie them to their daily lives through the sun. A survey is presented of techniques used by the authors for producing educational and entertaining descriptions of solar astronomy and solar energy physics for a public general interest audience. The paper will discuss the planetarium show on solar energy developed for general admission charge paying audiences. This public show was titled "A Sunshine Carol" - based on a novel by Charles Dickens. The prime was that Mr. Splurge, a wasteful man, meets the ghosts of Sunshine Past, Present, and Future in a factual, yet humorous, account of solar energy. The general outline of the overall program and a selected representative sampling of the materials used will be presented. The methods used for the production and effective utilization of audio-visual materials are described. The program played for an audience of 8,000.

This program is evaluated on the basis of educational merit as well as public awareness, response, and interest.

MONDAY, 9 JANUARY

Session 8: Room 3-120, 0945-1215

09.01.25 Contents of the Near UV Spectra of Arcturus and Procyon. K. van der Hucht, SRL, R. E. Stencel, IUE - NASA/JSC, R. Faraggiana, Trieste O., and Y. Kono, NASA/JSC.

The near-UV spectrum of Arcturus (K2 III) was recorded during a 35 minute exposure with an SEC-vidicon scanned echelle spectrograph aboard the SRL-USDA/JSC balloon-borne UV Stellar Spectrograph (BUSS) experiment, at 40 km altitude on the night of 19-20 May 1976. The spectral region 3300 - 2700 A, recorded at 0.1 A resolution, has been examined in detail and over 300 distinct absorption and emission lines were listed.

The near-UV spectrum of Procyon (F5 IV-V) was also recorded with the BUSS instrumentation during a similar flight on 16-17 Sept 1976. The spectral region 3325 - 2000 A, recorded at 0.1 A resolution, has also been examined and approximately 2500 absorption features catalogued.

Using standard line identification methods, supplemented by wavelength coincidence statistics (Hartman, et al. 1973 Ap.J. 192, 847), we present the possible identifiers for these spectral features, based on laboratory wavelengths for the elements from the unpublished extension to 3500 A of the Kelly and Palumbo Wavelength Tables (NRL Rep. 7599). Commentary on the emission lines and possible abundance anomalies will be provided.

09.02.03 Continuum Modeling of Ultraviolet Rocket Spectra (900-3100 Å) for Five Early-Type Stars. G. H. HOUNT, W. H. BRINE, P. D. FEDMAN, Johns Hopkins Univ. - Stellar ultraviolet fluxes obtained by rocket observations of five hot stars (ßVel, ßPup, ßEri, ßVir, and ßCen) have been compared with the theoretical non-LTE stellar models of Kurucz et al. (1974). The rocket payload, launched 17 February 1977, from Woomera, Australia, contained three absolutely calibrated (±15%) spectrometers which scanned, at ±15 Å resolution, three overlapping spectral regions: 890-1240 Å, 1190-1750 Å, and 1700-3100 Å. Comparison of the reduced data with models normalized to ground-based observations at 5480 Å gives the following effective temperatures: ßVel (90ºWGB), 30,700K; ßPup (95ºI), 32,100K.