mined with the photographic zenith tubes of the U. S. Naval Observatory at Washington, D. C., and Richmond, Florida, and Ephemeris Time was determined with the dual-rate moon camera at Washington.

The comparison of Universal Time with the cesium standard at the National Physical Laboratory, Teddington, England, made by comparing frequency from month to month, showed a uniform deceleration from September 1955 to January 1958. During this interval the length of the day increased by $0^{\circ}001$.

In February 1958 an unexpectedly large change in speed occurred within a short time. Analysis of the daily PZT results for time, referred to the cesium standard at the Naval Research Laboratory, Washington, indicated that a decrease of $0^{\circ}0003$ in the length of the day occurred in an interval of two weeks or less; how much less cannot be determined.

Observations made since June 1952 with the dual-rate camera at Washington have been reduced, but corrections for the irregularities in the profile of the moon have not yet been applied. The preliminary results indicate that about 1953 a change in acceleration in rotation of the earth occurred.

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Washington, D. C.*

Meinel, A. B. Report on the Kitt Peak Observatory.

On March 14, 1958, the National Science Foundation announced the selection of Kitt Peak as the site of the National Astronomical Observatory, culminating three years of intensive search.

The area examined for possible sites included six western states centered upon Arizona. All possible areas were examined in Southern California, Arizona, New Mexico and parts of Nevada, Utah and Texas.

The general region of southwestern United States was selected because of the high percentage of clear skies that is found in this area.

Preliminary reconnaissance of possible sites was made by examination of rocket photographs, principally those taken on the Viking flights. This examination was followed by an aerial reconnaissance of the entire region. Extensive photographs were obtained. The aerial reconnaissance narrowed the group to 150 sites.

A ground examination of the sites succeeded in eliminating all but a dozen sites. Sites were rejected for a variety of reasons relating to the practicability of testing and erecting an observatory facility.

Early assessment of meteorological factors, rainfall, cloudiness, dust, and the artificial factors of smog, smoke, vapor trails and city lights enabled five sites to be selected for initial testing. The sites were Chevelon Butte, south of Winslow in latitude 35° ; Summit Mountain, south of Williams in latitude 35° ; Hualpai Mountain, south of Kingman in latitude 35° ; Kitt Peak, southwest of Tucson in latitude 32° ; all four in Arizona; and Junipero Serra Peak, near Monterey, California, in latitude 36° .

The first year of site testing led to the elimination of Chevelon Butte, Summit and Junipero Serra. Mormon Mountain, south of Flagstaff, in latitude 35° was added, but actual testing was limited to Slate Mountain, north of Flagstaff, for practical reasons. The California site was discontinued because of the desire to have an observatory site complimentary to the weather conditions affecting the California observatories.

At present on Kitt are two excellent 16-inch photometric telescopes, and modern living quarters housed in a quonset building. Bids have been received for the construction of the 36-inch telescope facility. It is expected that the telescope will be in operation in October 1959. Engineering is proceeding on the 80-inch telescope facility and the casting of the 84-inch ribbed Pyrex mirror is underway. It is expected that the 80-inch telescope will be nearing completion in December 1960.

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Mikesell, A. H. Observations of stellar scintillation from moving platforms.

Scintillation amplitude, at frequencies around 250 cps, varies with speed of winds aloft. Its values, when observed through rectangular or multiple apertures, also vary with the orientation of these apertures relative to the wind-direction. If scintillation is introduced within particular layers in the atmosphere, such layers may best be sought from bases within the atmosphere. Preliminary data indicate that the observed amount of scintillation depends less upon motion of the observer relative to wind than upon his height relative to the tropopause.

By means of wind-tunnel tests with winds at speeds up to those represented by Mach 1, I found that serious seeing disturbances, but no scintillation, are produced in simulated starlight by air turbulence adjacent to the observer. Then I found that observations from airplanes at altitudes up to 14,000 feet yield values of scintilla-