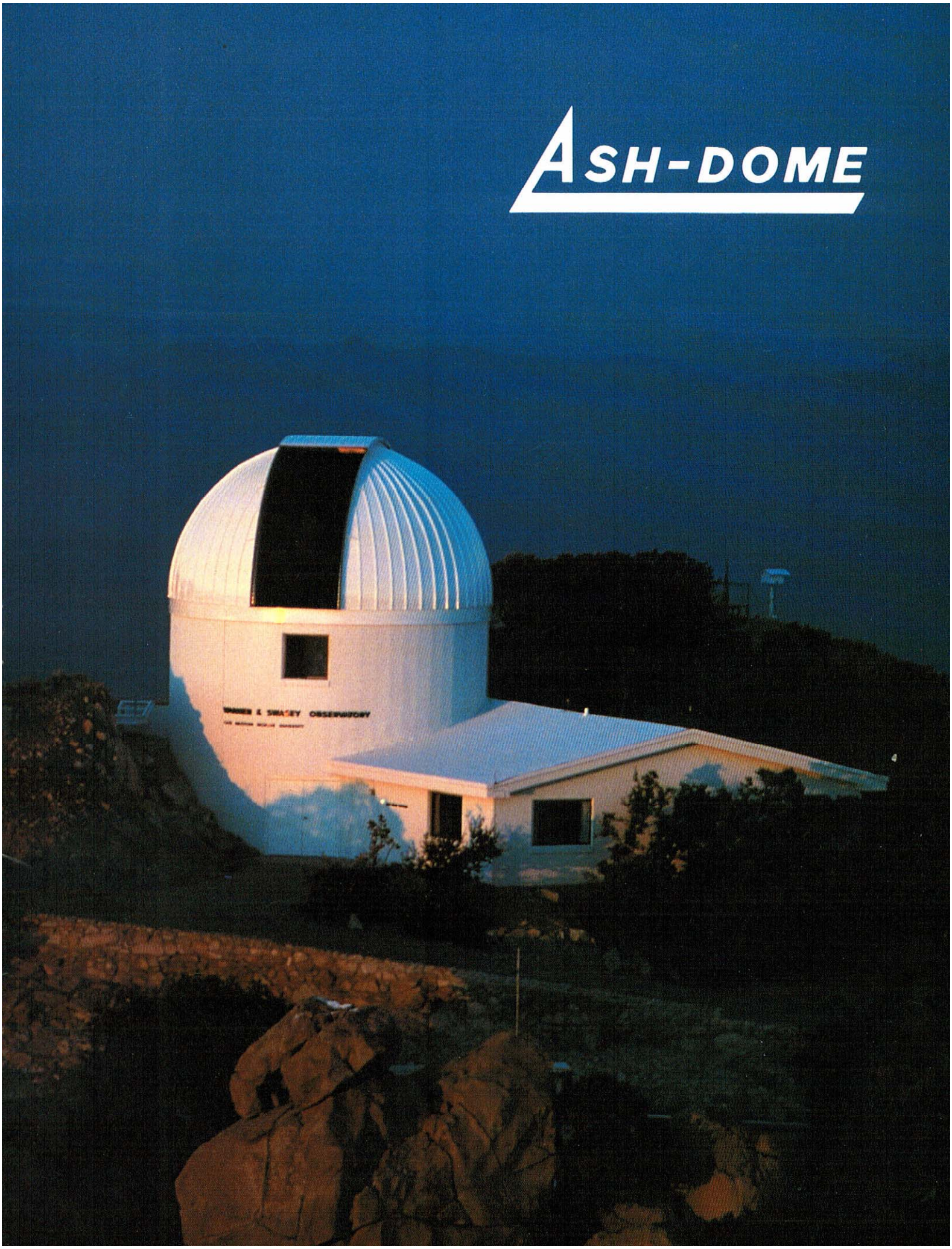
ASH-DOME



University of California — White Mountain Site

ASH-DOME

The choice of those who know and demand excellence

Front Cover — Kitt Peak Station of Warner & Swasey Observatory Case Western Reserve University

The universal acceptance enjoyed by ASH-DOME has not come about by accident. Here, indeed, is an extremely high quality and versatile instrument shelter designed to provide many years of flawless operation with a minimum of maintenance. Numerous confirmed reports indicate that ASH-DOMES at mountain top sites have encountered wind velocities far in excess of 125 miles per hour without any impairment to the operating characteristics or damage to the dome structure. ASH-DOMES are in the service of many of the world's distinguished activities engaged in research in astronomy, tracking operations, educational programs or weather services. The ASH-DOME has proved to be a most acceptable shelter for the sophisticated instruments employed by these activities. Many of ASH-DOME's unique features result from suggestions received from operating personnel at field sites about the world.

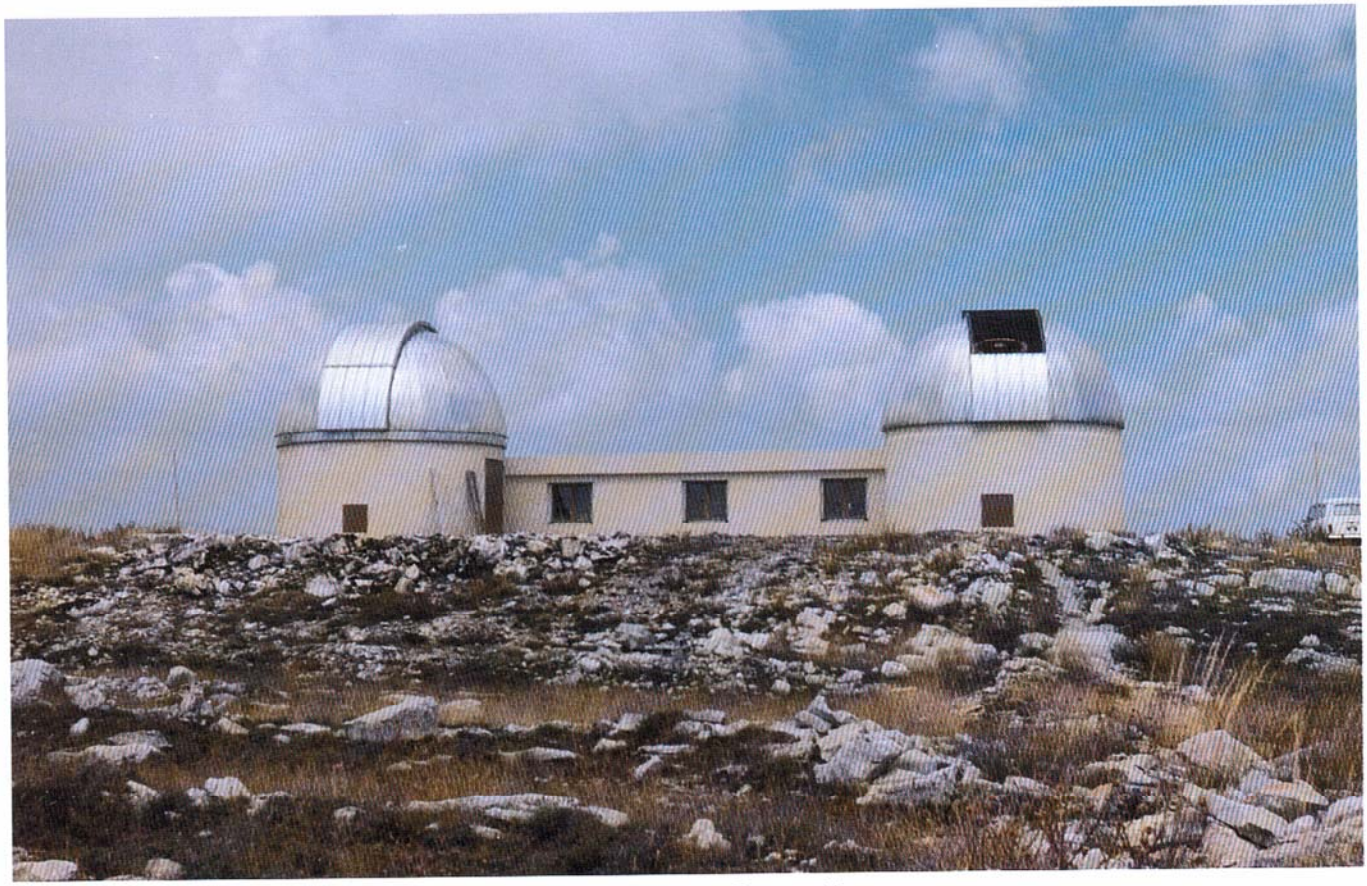
University of Michigan – McGraw Hill Observatory — Tucson, Arizona

Numerous optional features and modifications are available in the ASH-DOME. These include: variations on observing aperture width and length; modifications in the electric drive motors to enable operation with various types of electric power input; electric motor driven hydraulic pump and cylinder devices to operate the Type B shutter sections of larger models; additional accordian type folding wind screens; and a unique glass covered observing port which permits the observing chamber to be heated or air-conditioned.

Most ASH-DOME purchasers install the dome upon a support wall cylinder fabricated of materials which are compatible with the adjacent architecture. However, in some instances it is difficult to obtain satisfactory cylindrical support walls at a reasonable cost, particularly at remote instrument sites. In an attempt to rectify this condition, ASH-DOME offers wood framed, aluminum-clad support wall cylinders adequate for the support of any ASH-DOME. These wall cylinders are pre-cut at the factory and assembled at the instrument site. With the use of this type of support wall cylinder, it is only necessary for the purchaser to provide a stable foundation, fitted with anchor bolts, upon which the wall cylinder may be secured.

The electrical components used to activate the ASH-DOME and shutter have been chosen for high quality, dependability and adaptability to the application. They are the products of the better known producers of electrical equipment. All motor driven ASH-DOMES are delivered pre-wired and ready for operation upon completion of the assembly process. Each control switch is fitted with a temporary type of plug-in cord to enable the dome to operate prior to making permanent connections to an electric power source. The multi-conductor control cables are of sufficient length to enable the controls to be mounted at any convenient location in the observing chamber.

Under normal conditions, ASH-DOMES are available for delivery to a purchaser within ninety days after the receipt of the purchase order. Wherever possible, ASH-DOMES are delivered with company owned trucks. By special arrangements, field installation technicians may be made available to supervise the assembly of the ASH-DOME at the observatory site. Should it be desired, the dome components may be crated, or packed into a steel ocean shipping container for delivery via commercial transport.



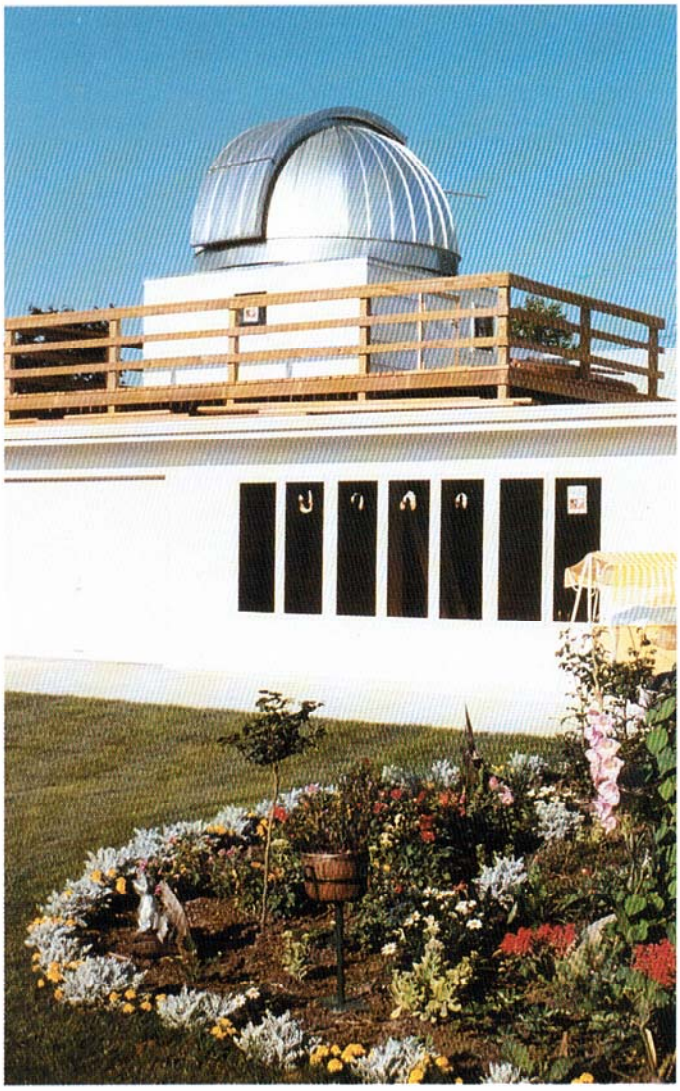
University of Paris — Grasse, France

Bays Mountain Planetarium — Kingsport, Tennessee

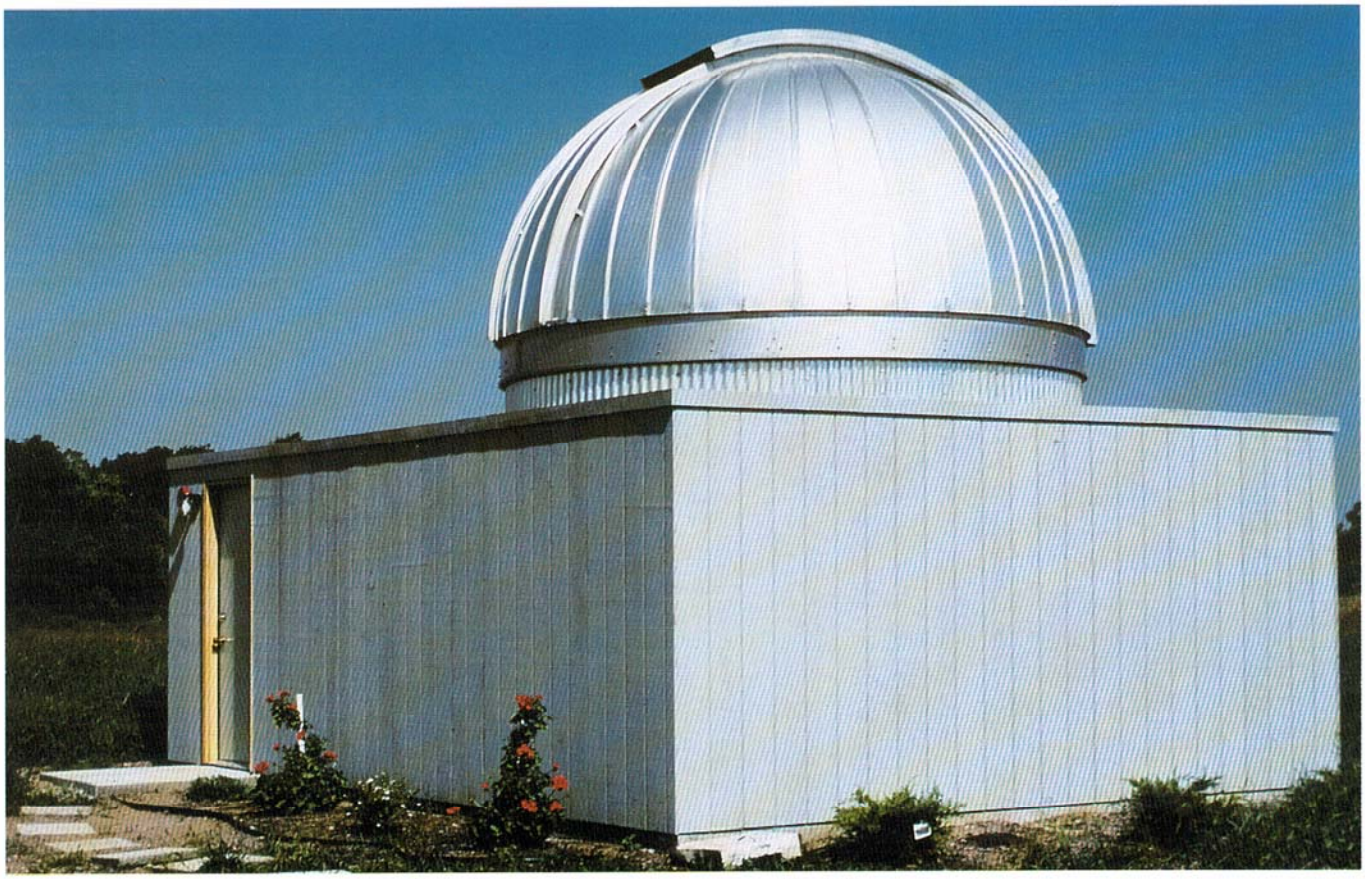
Manual operated shutter drive override devices are available in all ASH-DOMES at extra charge. This feature enables the shutter to be opened or closed during periods of electric power failures.

The comparatively light weight of the new ASH-DOME has been achieved by the elimination of massive members in the dome and shutter track rail systems; the elimination of interior frame members; and the adoption of an extremely efficient design. Aluminized steel provides the ASH-DOME owner with the corrosive resistance of aluminum in combination with the strength of steel. Unpainted samples of this specially coated material, exposed to a mild industrial atmosphere over a period of 21 years of testing, still show the aluminum coating to be adequately protecting the base metal. Aluminized steel needs no paint for corrosive protection, however, it may readily be painted if a painted surface is required or desired. All other steel components of the ASH-DOME are either galvanized, cadmium plated, or otherwise treated to provide corrosive resistance. All fastener bolts, screws, washers, etc., are of stainless steel.

The versatile up-and-over type of shutter design offers many advantages not found in older type bi-parting shutters. This shutter arrangement permits the observer to use any portion of the observing aperture, however, it does not require him to open the entire aperture at any one time. Since a majority of observing is done at altitudes above 30°, the short shutter section may remain at the horizon end of the aperture where it serves as a wind screen and shield from extraneous lighting. Should the operator wish to observe objects on the horizon, the Type A shutter arrangement will permit the operator to move the short section to the zenith end of the observing aperture when it is coupled to the main shutter section. The Type B shutter arrangement will allow the hinged short shutter section to be lowered to a horizontal position, thus making the entire length of the observing aperture available at any given instant. The Type B shutter system is recommended for those engaged in tracking operations.



Wayne Wedde Observatory — Clintonville, Wisconsin



Eric Rachut Observatory — Austin, Minnesota

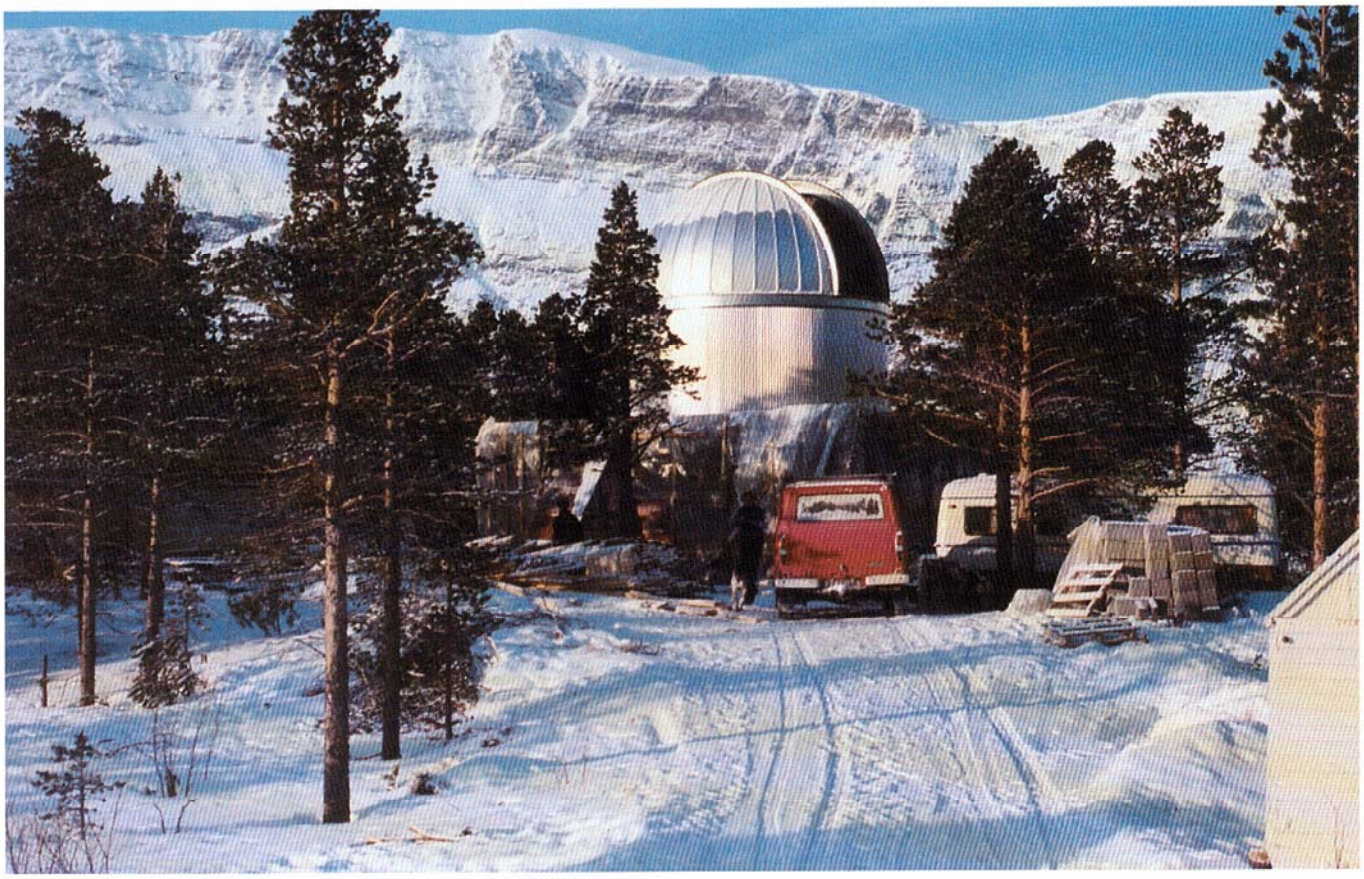
Numerous innovations and cost reducing factors allow the new ASH-DOME to be offered at prices within the reach of most interested activities. These include the standardization of diameters, the mass production of parts, the simplification of drive devices, efficient and time saving practices in the fabrication process, and a genuine desire by the makers of ASH-DOME to offer high quality observatory domes to those who do not have access to unlimited resources. That we have been successful in this endeavor is amply demonstrated by the many ASH-DOMES in use throughout the world.

Basically, the ASH-DOME is a hemisphere of aluminized steel, formed by the joining of a number of interlocking and self-supporting segments into a weathertight dome roof. This hemisphere is supported upon numerous ball bearing rollers which are locked into the dome support track rail configuration.

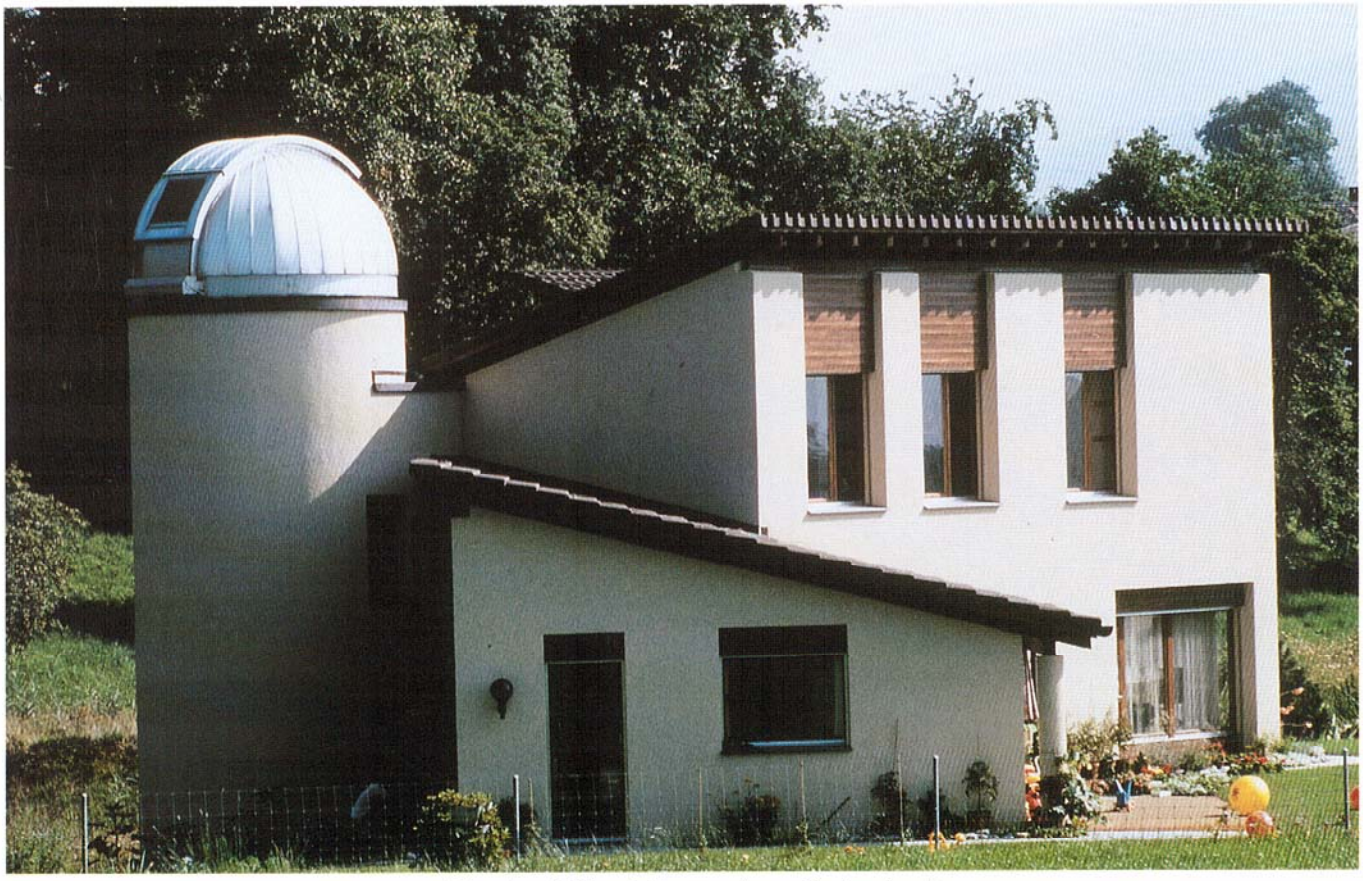
The ASH-DOME wall plate assembly is designed to be firmly secured to a circular support wall or curbing, where it must be adjusted to a truly circular configuration and to a flat and level plane. The use of many support rollers eliminates the possibility of "three-point" loading. This results in the almost frictionless movements of the dome. The new two-section, in-tandem type shutters are also carried on ball bearing rollers locked into the semi-circular shutter support track rail assembly. ASH-DOME shutters are carried up-and-over the dome by means of a motor driven worm and gear device meshed into a punched metal rack which is fixed to the underside of the main shutter section. ASH-DOMES are moved in azimuth by means of a motor driven gear device meshed into a circular punched rack, which is fixed to the dome support track rail. Manual operated control devices are available for certain small diameter models.

Jacksonville's Children Museum — Jacksonville, Florida

Alfred University — Alfred, New York



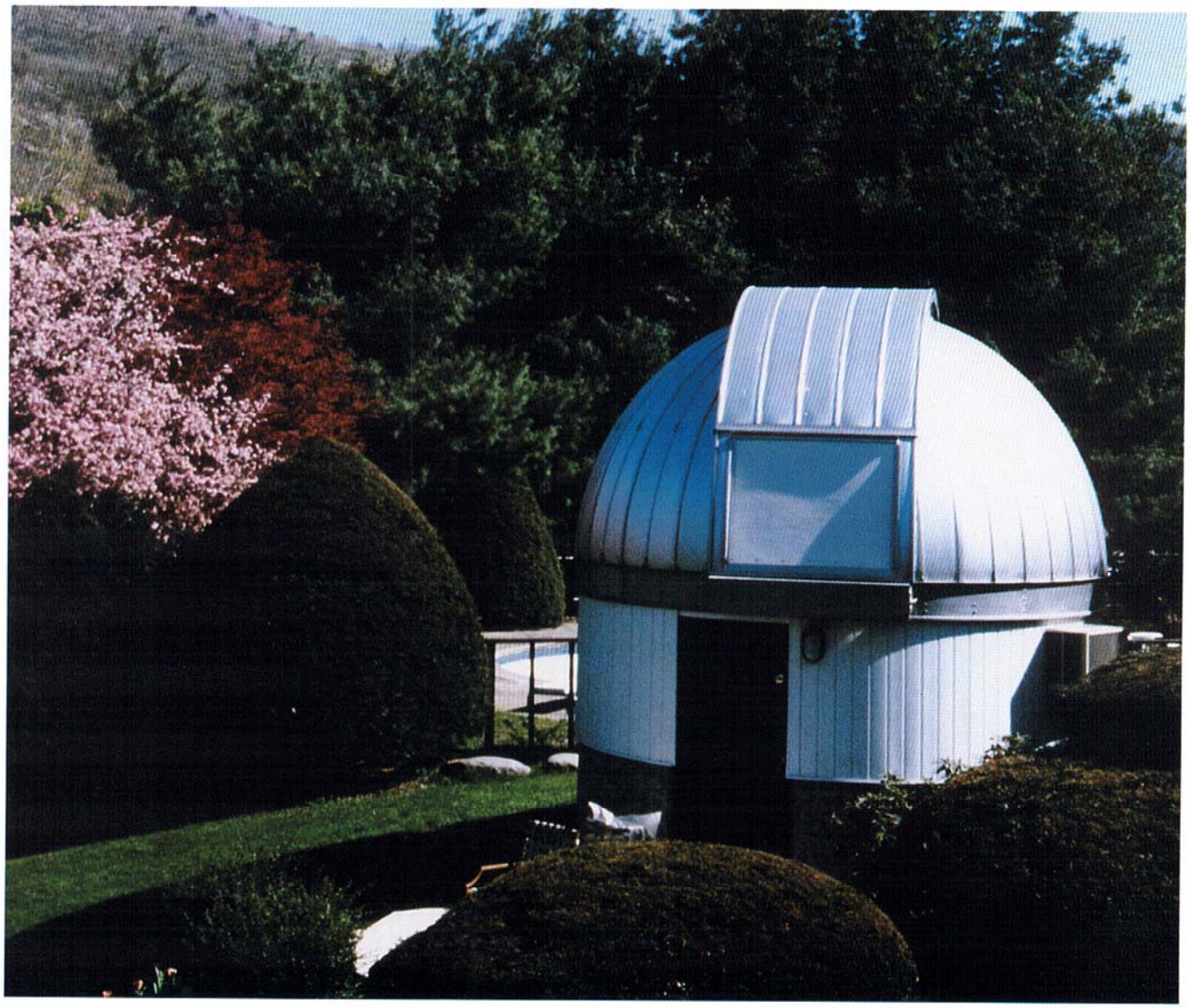
University of Tromso — Norway



Bernhard Oberholzer — Jona, Switzerland

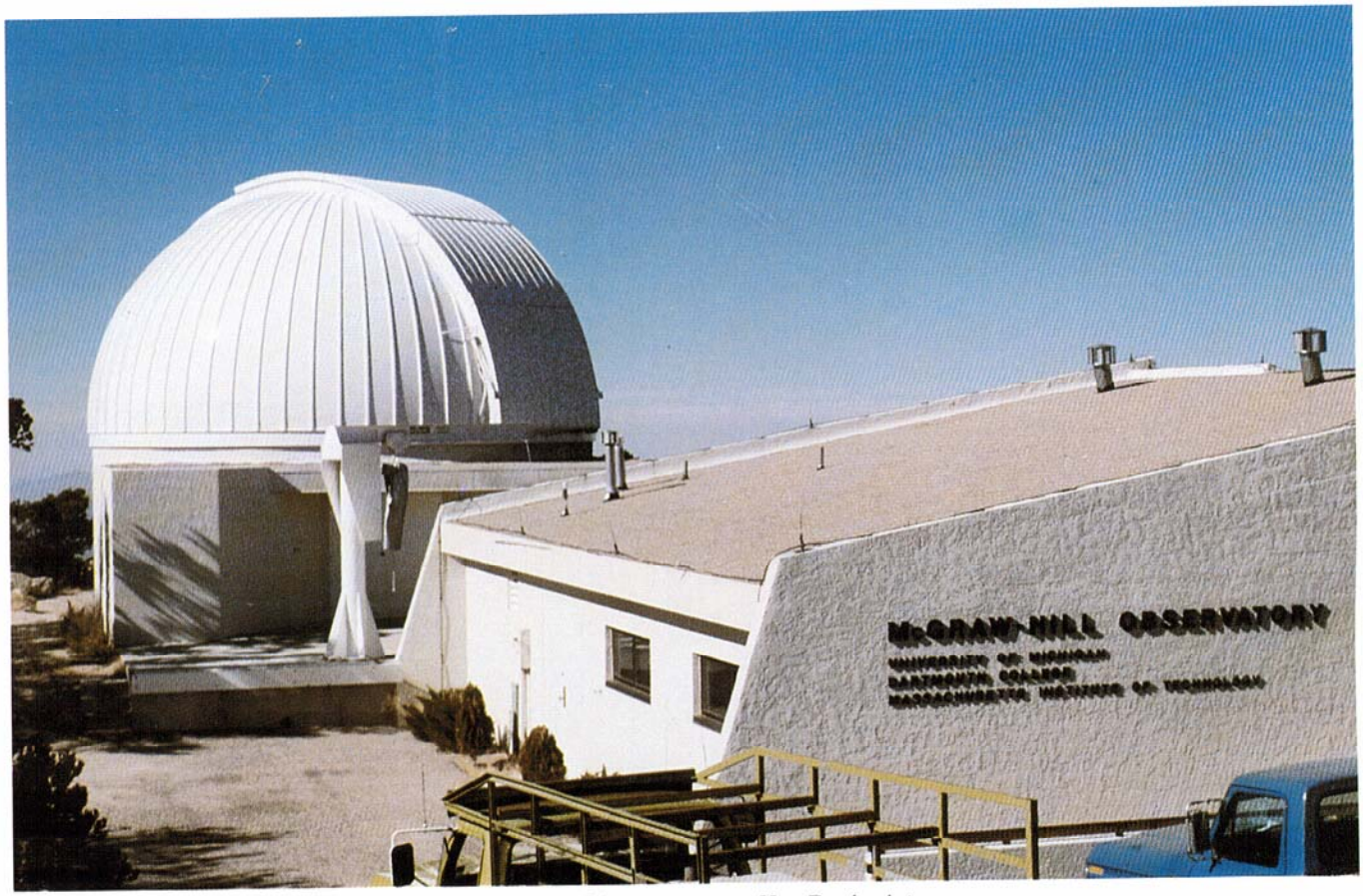
Lanphier shutter system

This unique shutter system was developed to enable the serious amateur astronomer to use his observatory to the fullest, from a comfortable air-conditioned or heated observing chamber. No longer does freezing weather or mosquito infested areas prevent the serious observer from enjoying his hobby. It also enables the observer to open or close this shutter in the normal manner. The glass covered observing port can be positioned to any location in the sky by using the standard azimuth and shutter motion controls. The glass covered port enables the astronomer to make excellent photographs of celestial objects, which are indistinguishable from photographs made through an open observing aperture. More information regarding the Lanphier Shutter System is available upon request.

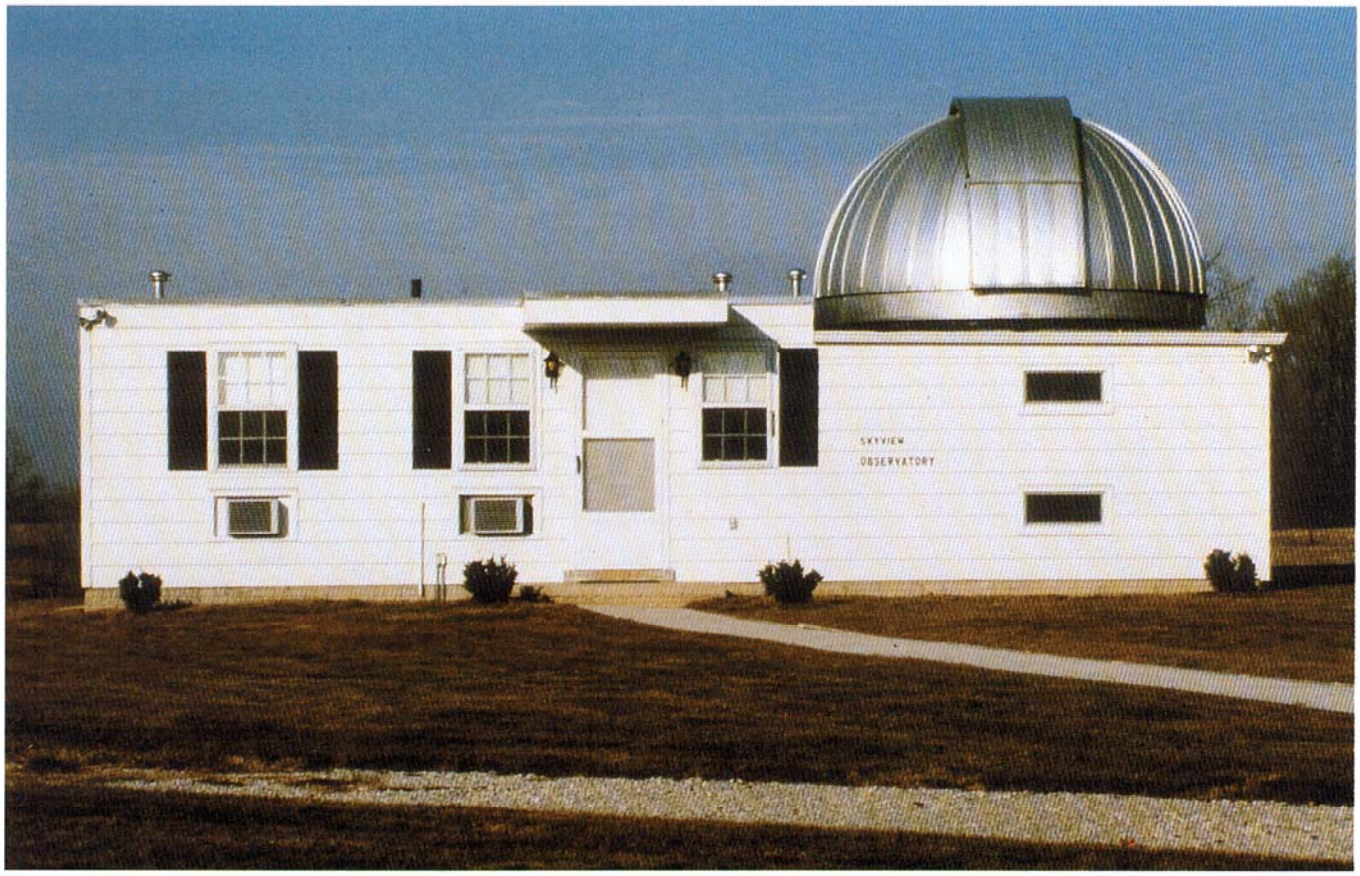


David Slutsky — Ellenville, New York

Edison Community College — Ft. Meyers, Florida



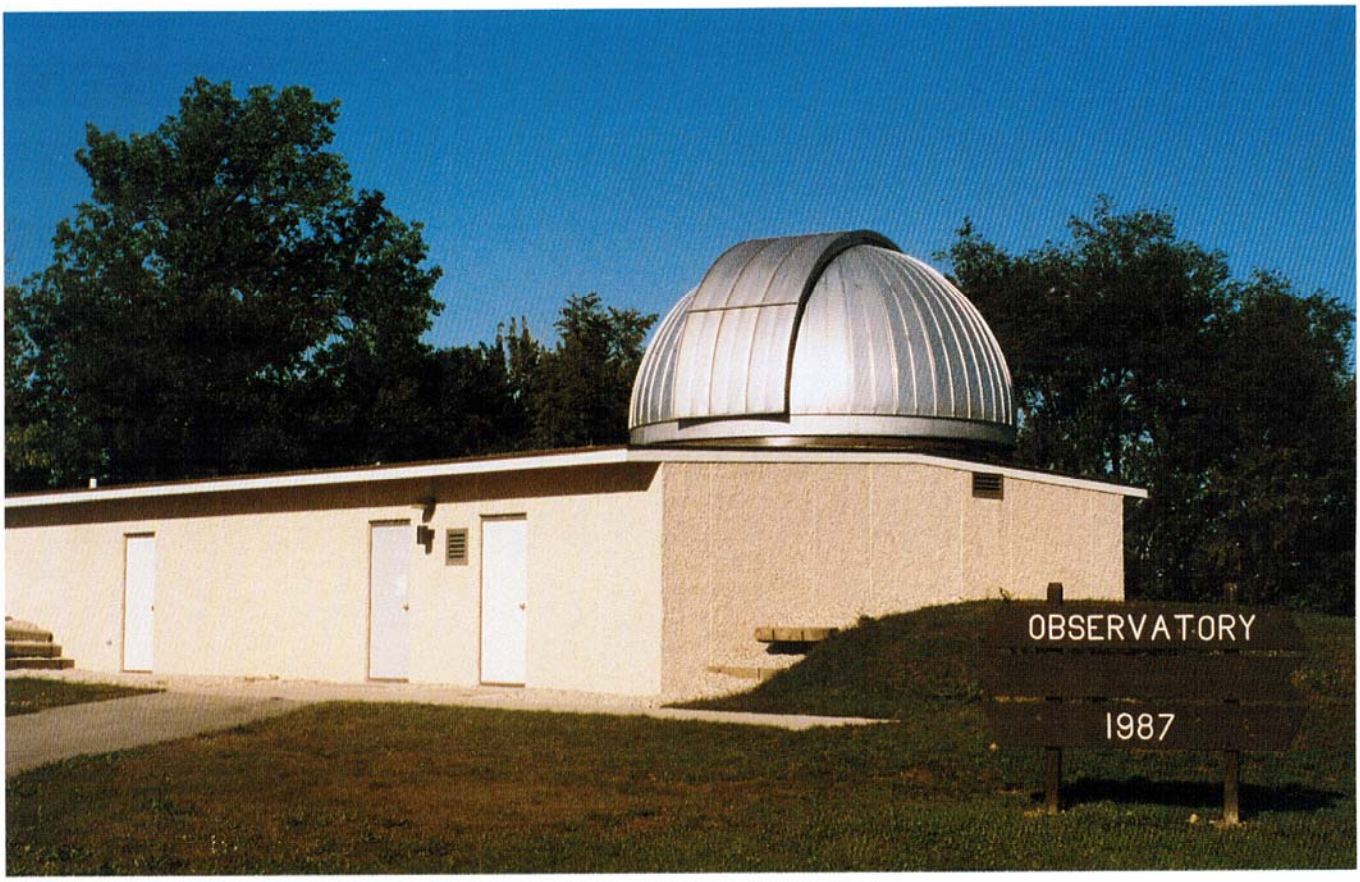
McGraw Hill Observatory — Kitt Peak, Arizona



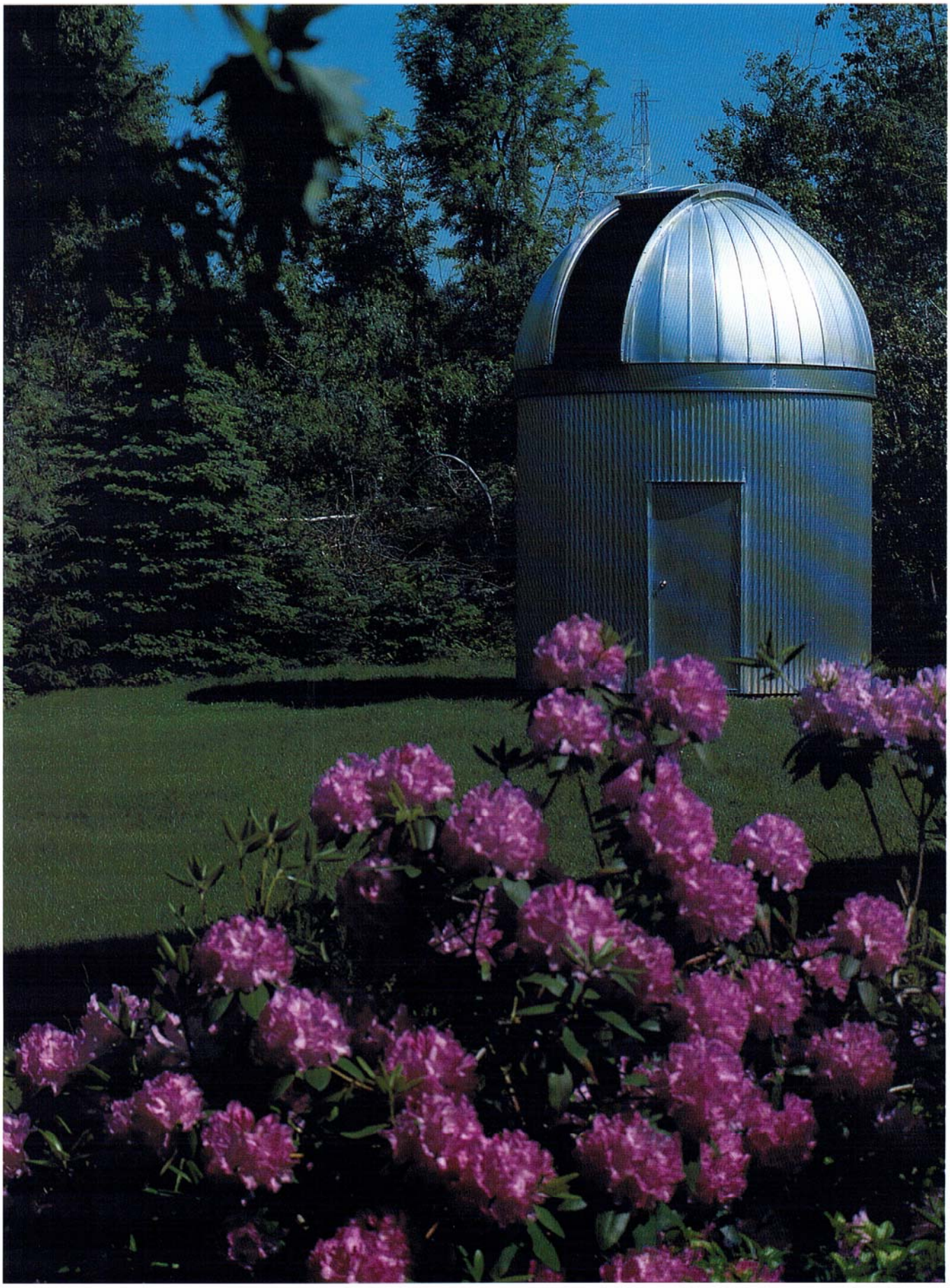
Dr. George Dozier Observatory — Lexington, Kentucky

David Moerke Observatory — Kiel, Wisconsin

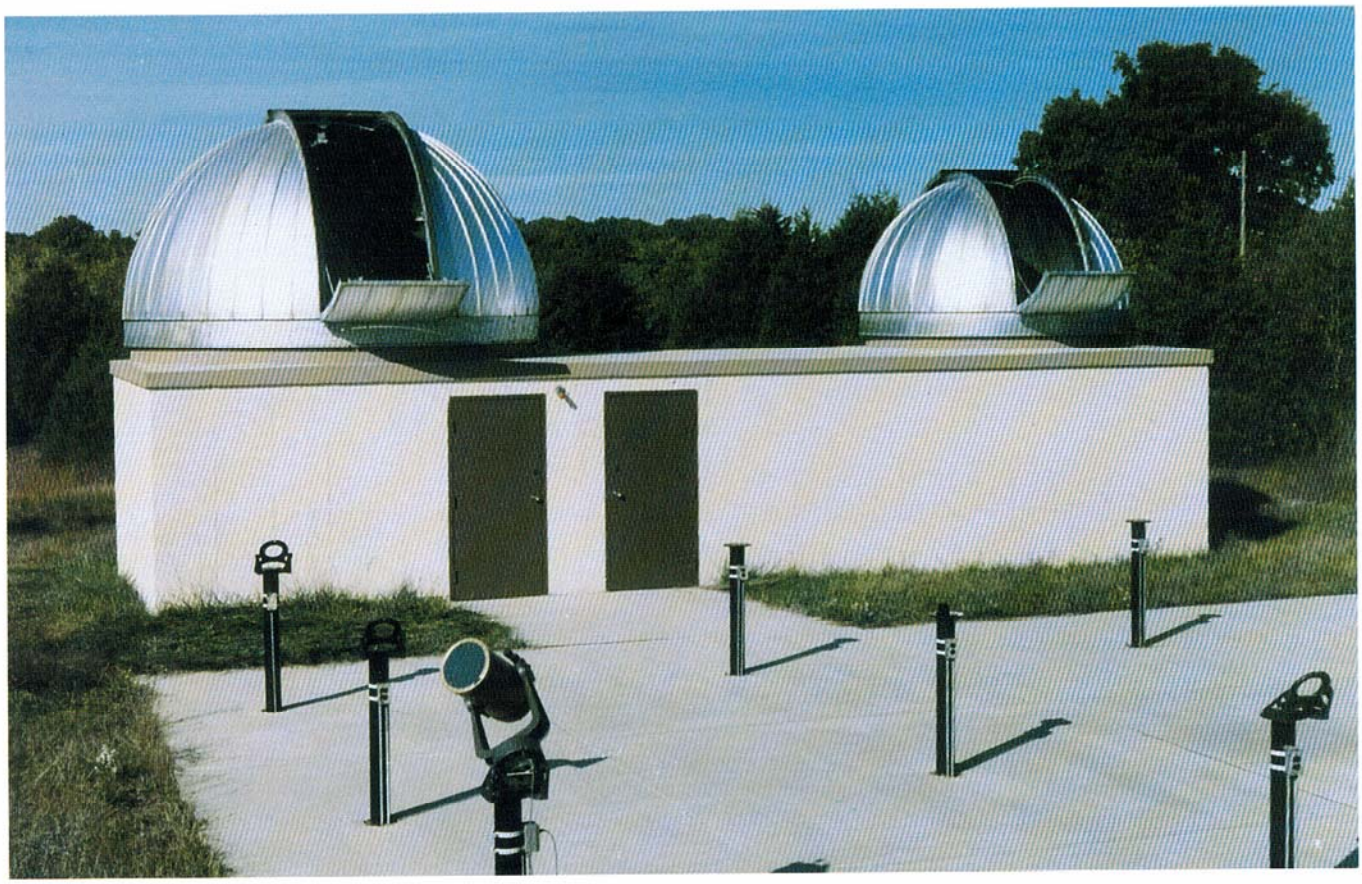
Ford Observatory — Table Mountain, California



University of White Water, Wisconsin

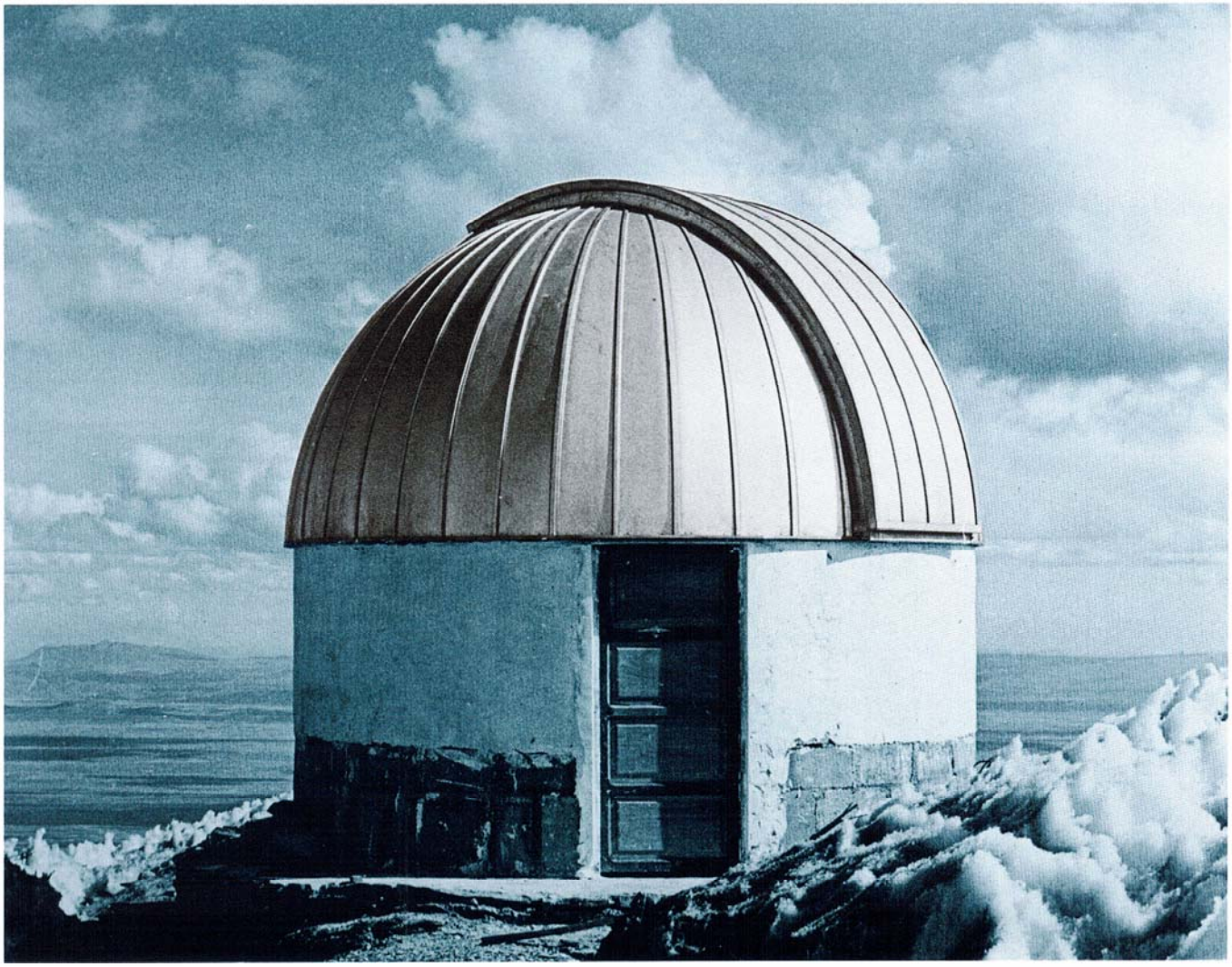


Walter Yund — Loudonville, New York



Southwest Missouri State University — Springfield, Missouri

University of Saskatchewan—Saskatoon



An excellent example of the stability necessary to withstand severe weather conditions can be demonstrated with the observatory atop the 17,500 foot Mount Chacultaya in Bolivia. Believed to be the highest permanent observatory in the world, the site, above much of the earth's atmosphere, was chosen to provide a platform for instruments. The observatory is used by the California Institute of Technology and the U.S. Geological Survey, Astrogeology Branch, to study sky transmission of visible and infrared light waves, zodiacal phenomena, and dark sky photography. In spite of its sophisticated mission, the observatory's base was erected and its dome assembled by Aymara Indian laborers under the supervision of a Cal Tech technician. Despite the fact that temperatures frequently drop to minus 54°F atop Chacultaya, the ASH-DOME functions faultlessly.

ASH MANUFACTURING COMPANY, INC.
BOX 312 PLAINFIELD, ILLINOIS 60544 U.S.A.
Telephone 815/436-9403
FAX 815/436-1032