Lloyd V. Wallace 1927-2015

Lloyd V. Wallace, Ph.D., Emeritus Astronomer at the Kitt Peak National Observatory, passed away on October 26, 2015 in Tucson. Born in 1927 in Detroit, Michigan, in humble circumstances, Lloyd developed an early interest in solar and planetary astronomy and was a protégé of Ralph Nichols, a physics professor at the University of Western Ontario. Later he moved back to the United States and obtained his Ph.D in Astronomy at the University of Michigan in 1957 under Leo Goldberg. It was while he was at the University of Michigan that he met and married his wife, Ruth. At various times in his early career, and as the result of a complex series of events, he held Canadian, British, and United States citizenships and even found time to become an expert professional electrician. On acquiring his degree he obtained a position with Joe Chamberlain at the Yerkes Observatory and began a lifetime association with Chamberlain and Don Hunten (then a visitor to Yerkes) in atmospheric and spectroscopic research. In 1962 they moved to Tucson where Chamberlain became the head of the Space Division at the Kitt Peak National Observatory, a unit set up by the first director, Aden Meinel, to apply advances in technology to astronomical research. Lloyd was hired as the principal experimenter in the observatory’s sounding rocket program, which was set up by the National Science Foundation to provide staff and visitor access to the upper atmosphere for research purposes. With this program he supervised a series of 39 Aerobee rocket flights from the White Sands Missile range to investigate upper atmosphere emissions, aeronomic processes, and make astronomical observations over a period of about 10 years. He was also involved in the first attempts to establish a remotely controlled 50” telescope on Kitt Peak and efforts within the Division to create an Earth orbiting astronomical telescope. In parallel with these activities Lloyd conducted research which was largely focused on spectroscopic investigations. In the early days these included measurement of upper atmospheric emissions, particularly visual dayglow, the discovery of Raman lines in Uranus, Lightning spectrum, and auroral emissions. During this time he also pursued theoretical studies of resonant line transfer and some of the first modelling of the thermal structure of outer planet atmospheres. With the conclusion of the rocket program he turned his attention to high-resolution studies of the sun and cool stars and to long-term study of the variability of atmospheric pollutants (HCl, HF, CO2) over Kitt Peak. His solar and cool star studies led to the production of several high-resolution digital atlases extending from the UV to the thermal IR, and in addition, studies of line variability and the molecular content of sunspots. Lloyd was a very private and genuine person, but with a very sharp wit. He was highly productive with 135 published papers bearing his name.