Audouin Dollfus 1924-2010

The French astronomer and aeronaut Audouin Dollfus passed away October 1, 2010 in Versailles, France, at the age of 85. Born November 12, 1924 in Paris and son of an aeronaut, he built his first refracting telescope at the age of 14. Graduated in Mathematical Sciences and Physics, he started his career at the Observatory of Paris-Meudon as a student of astronomer Bernard Lyot. At a time when astronomy was focusing on deep sky, Dollfus turned to the study of the Solar System, and became a worldwide expert on the subject. He created the Laboratory of Solar System Physics at Meudon, studying all planets, with special interest in Mars, Venus, Mercury, Saturn and Jupiter. He also contributed to the study of the Sun through the development of a coronagraph that was used by many spacecraft missions. Dollfus led astronomical campaigns both at the Observatory of Meudon and the Pic-du-Midi Observatory. He discovered Janus, 10th satellite of Saturn in 1966, and asteroid 2451 bears his name. The breadth and reach of his research and his numerous (330) scientific publications allowed him to contribute to many international committees.

His analysis of the Lunar dust using polarimetry allowed him to deduce the basaltic nature of the Lunar soil (1955). As a result, NASA invited him to collaborate to the study of the Apollo 11 landing site and to provide expertise for the design of the astronauts Moonboots. He contributed to the analysis of the Lunar samples returned by the Apollo program and to the studies of the Martian soil in preparation to the Viking mission, which landed in 1976 on Mars. In addition to Apollo, he collaborated with NASA on the Ranger and the Venus Mariner programs, and to the Soviet Mars-5 mission in 1973.

Expert in planetary mapping, he created the International Center for Planetary Photography at Meudon, from which stemmed many maps and nomenclatures, domains that were highly innovating to the time.

Audouin Dollfus was above all a pioneer of space exploration through his practice of astronomy using balloons. Bringing together his two passions of astronomy and balloons, he designed prototypes that allowed him to take a telescope up to 6,000 m (19,700 ft) in the air in a simple nacelle. His most spectacular and famous flight remains that of April 24, 1959, when taking off from Villacoublay near Paris, he reached 14,000 m (45,920 ft), still the French record today, opening the path to the study of astronomy from space. The data he collected during that flight allowed him to infer the existence of water on Mars.

Talented mongolfiere and balloon pilot, he held several world records for flight duration, distance, and altitude in free ballooning. Historian of sciences, historian in aeronautics, and member of the Aero-Club de France, Dollfus was also dedicated to passing on his passion for astronomy and never refused an opportunity to share his enthusiasm through lectures, debates, and talks to astronomy and aeroclubs. He mentored students in astronomy and planetary sciences. Many of them are today directly involved in planetary and space exploration. He was the recipient of many prizes and recognitions and has also written several books.

N. Cabrol and his colleagues at Meudon Observatory