46th IAA HISTORY OF ASTRONAUTICS SYMPOSIUM (E4)
History of Italian Contribution to Astronautics (3A)

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GIUSEPPE COLOMBO AND SPACE ACTIVITIES IN HUNTSVILLE, ALABAMA

Abstract

Giuseppe Colombo was an outstanding space scientist acting on the world stage, as has been emphasized by previous authors. Colleagues from his native Italy have honored him on several occasions. Other authors have summarized well his activities in the United States at the Smithsonian Astrophysical Observatory (SAO) and at the Jet Propulsion Laboratory. Less well known are his important interactions with the NASA Marshall Space Flight Center (MSFC) and the space community in Huntsville, Alabama. On June 27, 1961, within a month after his arrival in the United States as a visiting scientist at SAO he visited the Marshall Center. By that time, the Huntsville space team had launched and analyzed data from six satellites. During his Marshall visit, Colombo met with scientists who were then coping with attitude determinations for these early satellites. He quickly perceived that satellite attitude calculations constituted a new class of practical mechanics problems that fit his expertise. He promptly wrote several papers on satellite attitude problems. In 1974, Colombo was a prime advocate of the scientific and operational potential of tethered satellites. Colombo and SAO colleagues wrote a seminal paper on tether concepts and dynamics which they presented to personnel at the Marshall Center. Thereafter, a Marshall–SAO collaborative study of tether utilization began that progressed vigorously for several years with Colombo as a prime participant. The ultimate result was a joint U.S.–Italian tethered satellite project that flew twice on the Space Shuttle in 1992 and 1996. Through many contacts with MSFC and other NASA organizations, Colombo became very knowledgeable about U. S. space capabilities. His fertile mind frequently identified opportunities to apply these capabilities to various innovative objectives, and he often published these ideas. His productive life was cut short by his death on February 20, 1984.