


Obituary: Marisa Storini (1944–2023)

A life in cosmic ray physics

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Abstract

Obituary for physicist Marisa Storini, who died in 2023.

With deep regret I inform that Dr. Marisa Storini, former senior researcher of the INAF- Istituto di Astrofisica e Planetologia Spaziali and head of the SVIRCO observatory (the Rome neutron monitor) and laboratory for terrestrial physics, passed away on 7 September 2023 at 79 years old. She was a brilliant scientist in cosmic ray physics and solar-terrestrial relationships.

Marisa was born on 4 March 1944 in Bergamo, Italy, graduated from La Plata National University in nuclear physics in 1966 and from La Sapienza University in Physics in 1969. She became a fellow of the National Research Council (CNR) of Italy in 1970–1972 when she started her pioneering studies of Forbush decreases and cosmic ray modulation.

She became staff researcher at CNR - Istituto di Fisica dello Spazio Interplanetario (IFSI) in 1972 and received the doctorate in astrophysics and ionised gas at the same university in 1983. Marisa was head of the cosmic ray section of CNR-IFSI from 1987 until 2001 and head of the international Italy/Chile collaboration for the study of cosmic rays in Antarctica from 1992 to 2005.

She was a member of the scientific committee of CNR-IFSI for the period 1998–2000 and a member of the National Committee for Research Coordination of the National Antarctic Research Program (PNRA) of Italy during 1999–2004.

Dr. Storini was one of the pioneers of the space weather and space climate discipline. She led many research projects. To name a few, she was the coordinator of A.C.QU.A. (Ares soil Characterization by Quadrupole Analysis) project of the Italian Space Agency (ASI) from 2001 to 2003, coordinator of the project ‘Cosmic rays in polar areas and associated terrestrial phenomena’ of the PNRA from 2002 to 2009, and co-investigator of the SIXS (Solar Intensity X-ray and particle Spectrometer) experiment aboard the ESA- JAXA BEPICOLOMBO mission. She was also WP leader in the Working Group 1 (Monitoring and predicting solar activity for Space Weather) and Working Group 2 (The radiation environment of the



Fig. 1: Marisa Storini (the one with sunglasses) at the IV European Cosmic Ray Symposium in 1974. Courtesy of Prof. Ester Antonucci (behind Marisa in the picture).

Earth) of the European COST ACTION 724 – developing the basis for monitoring, modelling and predicting space weather.

Marisa helped to organize several important international conferences, including the ‘IVth European Cosmic Ray Symposium’ in Frascati in 1974 (see Figure 1) and the 24th ‘International Cosmic Ray Conference’ in Rome in 1995.

Dr. Storini’s expertise extended from cosmic ray physics to solar and space physics, as well as to the solar induced effects on the terrestrial atmosphere and geomagnetic field, planets, space weather and climatology. She authored more than 200 scientific publications including an influential review of the ‘Gnevyshev gap’ in solar activity. She also obtained important results on Forbush decreases and long-term cosmic ray modulation, coronal holes, solar relativistic particles, and solar activity effects in heliosphere.

Marisa’s expertise encompassed the neutron monitor experimental set up as well as particle detectors and environmental instruments. She played a leading role in the development and upgrade of the Rome neutron monitor (NM) called SVIRCO (Studio Variazione Intensità dei Raggi COSMICI) observatory.

Thanks to Dr. Storini’s tireless efforts, the Rome neutron monitor has achieved high efficiency and reliability, is recognized as a crucial facility for space weather, and is considered to be a national asset of inestimable value and a reference station for other neutron monitors.

Marisa had a close collaboration with many neutron monitors groups. For instance, she helped in checking data from the newly installed NM in Athens in 2000. She participated actively in all NM meetings that were held in Athens, such as in the COST meeting for the creation of the ‘Neutron Monitor Data Base’ (NMDB).

Marisa was an outstanding scientist who dedicated her life to research with immense passion, but also a dear friend, with a strong character hiding a sensitive heart. She was loved and esteemed for her kindness and generosity, fruitful debate ability, honesty, and dedication to serve the community. Marisa



Fig. 2: Marisa (left) and myself (right) in one of the thousands of brain storming sessions.

was an amazing mentor (see Figure 2). Her passion for science has inspired many of us, students and collaborators, providing motivation, strength, determination to undertake our lives as researchers.

We lost a friend, an important personality, a reference for the whole community. She will be sorely missed.

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