

INTERNATIONAL BALLOON STRATOSPHERIC ACTIVITIES

ABSTRACT

Balloon borne instruments are suitable for a wide range of science fields, such as atmospheric measurements, climate and environment related investigations, astronomy and astrophysics, space instruments validation and testing of new technologies.

Balloons have unique scientific measurement capabilities providing a unique way of accessing the different atmospheric layers, providing atmospheric measurements with an excellent resolution thanks to the slow and stable moving which is advantageous for the long term observations of astronomical objects and providing an economic platform for the validation and calibration of satellite measurements in the Earth atmosphere.

In this session the topics are:

- Scientific experiments for balloon systems
- Payloads for technological validation
- Innovation of the flight chain technologies
- International projects

A particular attention will be given to the ASI activities, such as the presentation of the payloads selected in the frame of the HEMERA project which offers the unique opportunity of free of charge flights to the

scientific community. The HEMERA project, which is funded in the frame of the Horizon2020, has the aim to enlarge and coordinate an European community which operates with the stratospheric activities. Space agencies and industries cooperate on technological, operations and strategic topics. The main outcomes of the project will be presented.

SYMPOSIUM N.15

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Chaired by: Eng. Marta Albano, Dott.sa Angela Volpe
Agenzia Spaziale Italiana

PaperN.1 M. Albano, A. Gabrielli, D. Spoto - HEMERA: THE INTERNATIONAL STRATOSPHERIC BALLOONS COMMUNITY AND NEW TECHNOLOGIES

Paper N. 2 A.Volpe , M. Albano,S. Masi, P. de Bernardis, E. Tommasi, G. Polenta, D. Spoto, OLIMPO and LSPE collaborations - OLIMPO & LSPE/SWIPE MISSIONS: INNOVATIVE INSTRUMENTATIONS FOR ASTROPHYSICAL OBSERVATIONS

Paper N. 3 S. Fineschi, G. Capobianco, G. Massone. G. Nicolini, L. Zangrilli, F. Landini, M. Pancrazzi, M. Romoli - CORMAG - OBSERVATIONS OF THE SOLAR CORONA FROM STRATOSPHERIC BALLOON

Paper N.4 L. Natalucci, S. Lotti, F. Nuccilli, N.Vertolli, U.Zannoni - DEVELOPMENT OF PROTOTYPE FOR GAMMA-RAY SENSOR AND TECHNOLOGICAL TESTS.

Paper N.5 Frassetto, L.Cocola, V.Da Deppo, L. Poletto, P. Zuppella-HIGH SIGNAL-TO-NOISE RATIO SPECTROMETER BASED ON STATIC FOURIER TRANSFORM INTERFEROMETER (FOR AN HEMERA BALLOON FLIGHT)

Paper N.6 F. C.Bettanini, P.Fiorentin, M.Burigana, E.G Bonechi, M.Ghedin, A.Aboudan, G. Colombatti - DESIGN AND TEST OF AN UTONOMOUS INSTRUMENT FOR MONITORING LIGHT POLLUTION FROM BALLOONS

Paper N. 7 V. Della Corte, A. Rotundi, V. Liuzzi, P. Palumbo, Z. Dionnet -
DUSTER: COLLECTION AND LABORATORY ANALYSIS OF
STRATOSPHERIC DUST

Paper N. 8 L. di Palo, V. Bandini , E. Bedetti, G. Broggi , P. Celesti , L.
Collettini , D. di Ienno , R. Garofalo , F. Iovanna , G. Mattei , A. Gianfermo ,
P. Marzioli, F. Piergentili , F. Santoni
TESTING A VOR-BASED POSITION AND ATTITUDE DETERMINATION
SYSTEM IN THE STRATOSPHERE: THE TARDIS EXPERIMENT

PaperN. 9 M. Gemignani, S. Marcuccio - FLIGHT CAMPAIGN RESULTS
AND PROSPECTS OF HIGH ALTITUDE BALLOONS FOR LOW COST
SPACECRAFT TECHNOLOGY TESTING

Paper N. 10 Marzioli, Gianfermo, Frezza, Amadio, Santoro, Romanelli,
Santoni, Piergentili- STRAINS: A STRATOSPHERIC EXPERIMENT FOR
INNOVATIVE TRACKING SYSTEMS TESTING

Paper N. 11 Giulia Mantovani - THE HEMERA INFRASTRUCTURAL E.U.
PROGRAMME: EPO ACTIVITIES