

Rome, October 22, 2007

Press Release

Galileo Avionica centre of excellence for Vacuum Technologies

Three contracts awarded by the European Space Agency for advanced optical treatments

The Vacuum Technologies centre at Carsoli (near L'Aquila) represents for Galileo Avionica (a Finmeccanica Company) a site of excellence on the design, development and production of optical and functional coatings military, aerospace and civil applications. Galileo Avionica plant carries out both: a Research and Development activity and a significant production specialized in optical coatings, becoming a reference for all Finmeccanica companies.

The optical coatings realized at the Carsoli center are manufactured in vacuum using different technologies and are applied on optics such as lens, windows, and mirrors to maximize their optical properties in the UV-NIR range.

Galileo Avionica has recently been appointed of three important contracts of the European Space Agency (ESA) for the realization of special coatings with very high performances to be applied on components that will be installed on board optical systems in the next ESA missions.

Since few months the first contract has been concluded and successfully carried out. The contract included the manufacturing of a demonstrator (BreadBoard) of the TIRD (*Thermal Infrared Rejection Device*). The demonstrator of the TIRD is essentially composed by an optical filter (multilayer coating) deposited on a circular window of 100 mm in diameter fixed on aluminium mounting structure that shall allow its positioning on the spacecraft to protect one or more optical systems of the payload of the Mercury Planetary Orbiter, one of the two shuttles part of the Bepi Colombo. Considering the proximity of the spacecraft to the Sun during the entire mission life (part orbiting over Mercury), some of the instruments require to reject the light radiations in the infrared spectrum from 2 to 20 micron e contemporaneously to maintain a high transparency in the Visible range being used for the instrumental analysis. Galileo Avionica filter (Fig. 1) has met all the requirements of the European Space Agency and the Company will also realize shortly a model due to fly.

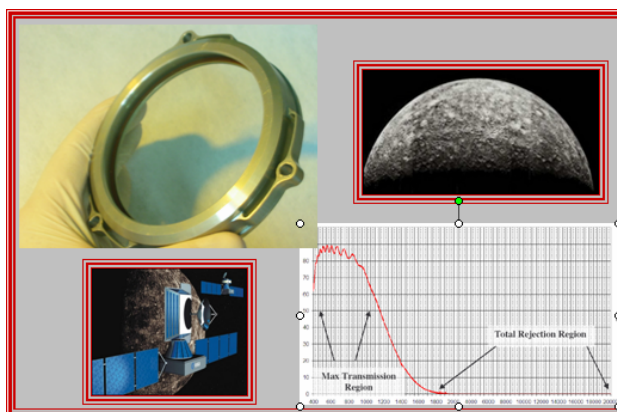


Fig. 1 TIR Filter (BreadBoard) e Risposta Spettrale nell'intervallo 0.4µm-20µm

The second contract has just successfully passed the phase of the qualification of the optical coatings that is the most critical step. The European Space Agency has accepted the technical solutions proposed by Galileo Avionica and the presented experimental results, giving its authorization to the realization of the demonstrator. In this case also, Galileo Avionica will realize a very sophisticated filter to protect the Visible Imager and Magnetograph (VIM), an instrument part of the payload of the Solar Orbiter rejecting a wide radiation from 300 nm to 5000 nm leaving a very narrow opening around 617 nm (Fig.2) with high transparency.

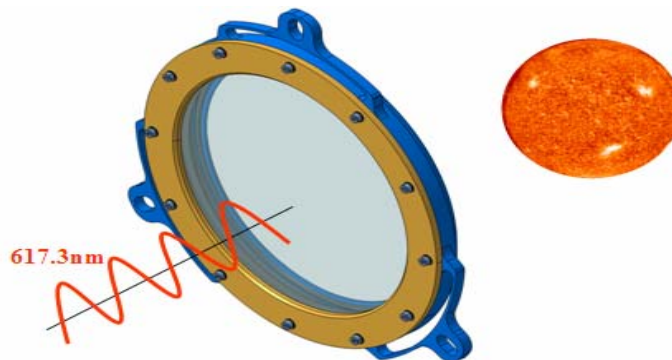


Fig. 2 VIM Filter (BreadBoard Concept)

Finally, the third contract concerns the development of Linearly Variable Filters that are optical components of small dimension on which the special coating will determine very small windows of transparency, with a regular (and linear) distance one from the other, both in Space and Frequency. The requirements for these components are highly demanding and currently not available on the market yet these performances are essential to realize a new generation of spectrometers with reduced dimensions as required for future space missions.

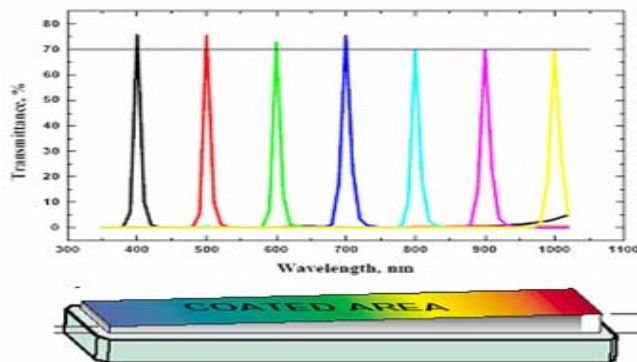


Fig. 3 Linearly Variable Filter Concept

The ESA contracts represented for Galileo Avionica an acknowledgement of the excellence and quality of its products and also of the company design and manufacturing capabilities that have strongly increased over the years.

Moreover, the skills and competences of the Vacuum Technologies center together with the well recognized experience of the Space Business Unit are allowing Galileo Avionica to present itself as single supplier of the entire optical system, a key factor that has been very much appreciated by agencies, like ESA, strongly enforcing the aspects of quality and reliability.

In 19 years, Galileo Avionica site has developed and qualified about a hundred of different Coatings part of which are currently used to coat over 20.000 surfaces a year, with a forecast of 30% boost for 2008.

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