



IMEC IRIS-1 sensor revives in 'Mars Webcam'

The Visual Monitoring Camera (VMC) containing the integrated radiation tolerant imaging system (IRIS)-1 developed at IMEC, has recently been brought in action again as the 'Mars Webcam', providing views not obtainable from earth. The camera is in orbit around Mars since December 2003 as part of Mars Express.

A Visual Monitoring Camera (VMC) is carried on several spacecrafts of the European Space Agency (ESA) to provide visual feedback of the spacecraft environment. These basic optical monitoring cameras, developed by OIP Sensor Systems (Oudenaarde, Belgium), are all equipped with a CMOS-based sensor. A camera containing IMEC's IRIS-1 integrating CMOS active pixel sensor (APS) was used for Mars Express, ESA's deep-space probe now orbiting the red planet. The VMC was installed on the orbiter with the only purpose of providing simple, low-tech images of the Beagle lander separation from the orbiting Mars probe in December 2003. The single-chip sensor is capable of producing 640x480 pixel images with 8 bits per sampling depth.

Following three years of inactivity, ESA decided to study the possibility of reviving the IRIS-1 based VMC camera in a completely different role, namely as a 'Mars Webcam'. In its second live with on average 3 observations per week, the VMC is now used for public relations, outreach and auxiliary science data gathering.

Since 2003, 2nd and 3rd generation image sensors have been realized (IRIS-2 and IRIS-3) in collaboration with Fillfactory/Cypress and a new compact VMC camera incorporating these sensors has been developed by OIP.



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