



## **Measuring the solar radius with PICARD during the rising phase of solar cycle 24**

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The PICARD project involves not only a space mission but also a ground-based observatory at Calern (France) dedicated to the study of the Sun. Thus, measurements are taken in orbit by the PICARD mission satellite in order to avoid the impact of atmospheric effects. Nevertheless, it is important to understand and interpret the ground-based measurements, which actually constitute the longest series of currently available measurements. This is why an important ground-based measurement programme (“PICARD SOL”) is associated with the space operation before, during, and after the PICARD space mission.

Space observations are a priori most favourable, however, space entails also technical challenges, a harsh environment, and a finite mission lifetime. The PICARD spacecraft, launched on June 15, 2010 was retired in April 2014. On ground, the instruments are less affected by in-space degradation and maintenance is easily provided, so, if the atmosphere is properly monitored and taken into account, they still represent an opportunity to generate the needed long-term time-series. That is why ground measurements have been carried out since May 2011, and will be pursued after the space program.

In this talk, we will describe both sets of instruments, and then will present our current results. We will highlight the importance of ground-based and space measurements. Indeed, our measurements show the benefit of simultaneous measurements obtained from ground and space observatories.