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MEMO

Date	2014-04-11	**Ref**	EUCL-EST-ME-8-0003
From	EST, René Laureijs	**Visa**	
To	Euclid Collaboration	**Copy**	A. Parmar

Subject: VIS Short Exposure

At its plenary meeting EST#7, held on 11 and 12 Feb 2014, the Euclid Science Team has reviewed the proposal by the Euclid Consortium to change the VIS operations by including a "short exposure" per observed field.

The short exposure would be performed simultaneously during a NISP photometry exposure. The NISP photometry band preferably to be selected is that with the longest exposure time, subject to the NISP requirements. There will be one short exposure per field of four dithers, giving one sky frame in addition to the nominal 4 frames for each dither.

The short exposure provides an extra coverage of the sky obtained during a period that the instrument would otherwise be idle. In combination with the long exposures, it will improve the dynamic range of the sky detected by VIS. Besides its scientific legacy value, the extended dynamic range will be useful for the PSF calibration on bright stars and provides an additional spatial sampling of the PSF. Equally important, the short exposure gives an additional redundancy useful for e.g. cosmic ray and cosmetic removal.

The VIS team has ensured that the new sequence is well within the telemetry and power constraints, and that the VIS development overheads are marginal. They accept that the short exposure should not violate the VIS EID-A constraints on telemetry and power, and should not interfere with the nominal mission, spacecraft, and NISP operations.

Given these conditions, and considering the advantages for the Euclid science return, the EST regards the VIS short exposure a viable addition to the nominal survey mode for VIS, with the understanding that it can be removed if needed to safeguard the core science of the mission. The EST requests ESA Project and the VIS instrument team to agree to this option for implementation.

On behalf of the Euclid Science Team,

René Laureijs

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