

Diskuse – měření reflektivit zrcadel

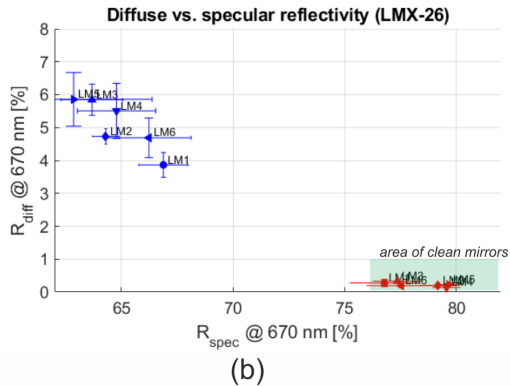
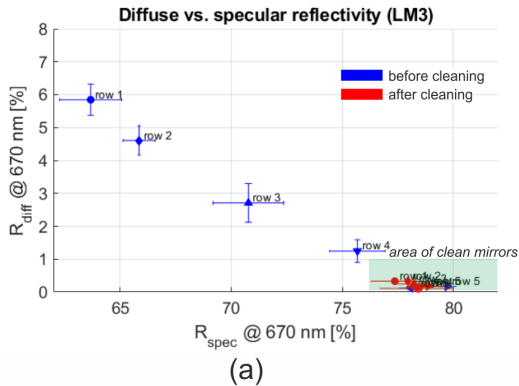
Pavel Horváth, Libor Nožka, Martin Vacula

January 7, 2026

Měření reflektivity pomocí uScanu



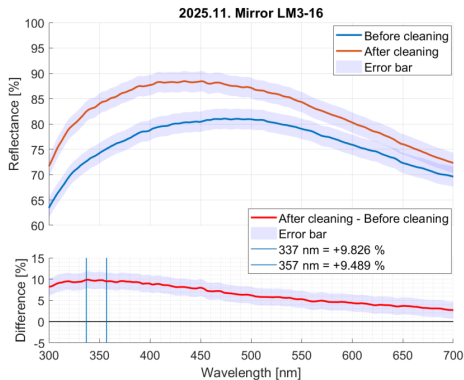
Grafy uScan reflektivity



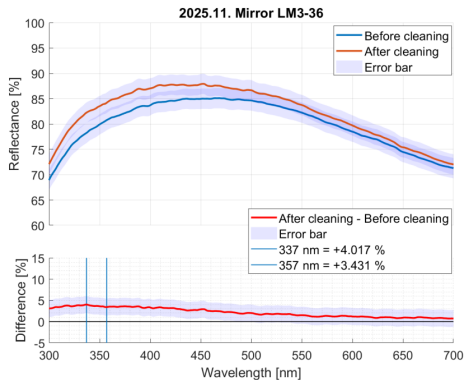
Měření reflektivity pomocí Avantes



Grafy hemisférické reflektivity



(a)



(b)

Reflektivity **PŘED** čištěním

	Avantes			μScan	
Row	R_h^{337} [%]	R_h^{357} [%]	R_h^{670} [%]	R_s^{670} [%]	R_d^{670} [%]
1	73 ± 2	75 ± 2	71 ± 2	63.7 ± 1.4	5.8 ± 0.5
2	77 ± 2	80 ± 2	73 ± 2	65.9 ± 0.7	4.6 ± 0.4
3	78 ± 2	81 ± 2	73 ± 2	70.8 ± 1.6	2.7 ± 0.6
4	83 ± 2	86 ± 2	75 ± 2	75.7 ± 1.2	1.2 ± 0.3
5	84 ± 2	86 ± 2	76 ± 2	79.7 ± 0.4	0.2 ± 0.1
6	84 ± 2	86 ± 2	75 ± 2	78.1 ± 0.5	0.1 ± 0.1

Reflektivita PO čištění

	Avantes			μScan	
Row	R_h^{337} [%]	R_h^{357} [%]	R_h^{670} [%]	R_s^{670} [%]	R_d^{670} [%]
1	82 ± 2	85 ± 2	74 ± 2	77.4 ± 1.1	0.3 ± 0.1
2	82 ± 2	84 ± 2	75 ± 2	78.0 ± 0.4	0.3 ± 0.1
3	82 ± 2	84 ± 2	74 ± 2	78.2 ± 0.8	0.2 ± 0.1
4	83 ± 2	85 ± 2	75 ± 2	78.5 ± 0.6	0.2 ± 0.1
5	82 ± 2	85 ± 2	75 ± 2	78.9 ± 1.0	0.2 ± 0.1
6	82 ± 2	85 ± 2	75 ± 2	78.3 ± 1.6	0.1 ± 0.1

GAP-2025-NNN

Description and Results of the Mirror Cleaning Campaign at Los Morados

Kai Daumiller^a, Paul Filip^{a,b}, Pavel Horváth^c,
Hermann-Josef Mathes^a, Libor Nožka^{c,d}, Martin Vacula^{c,d}

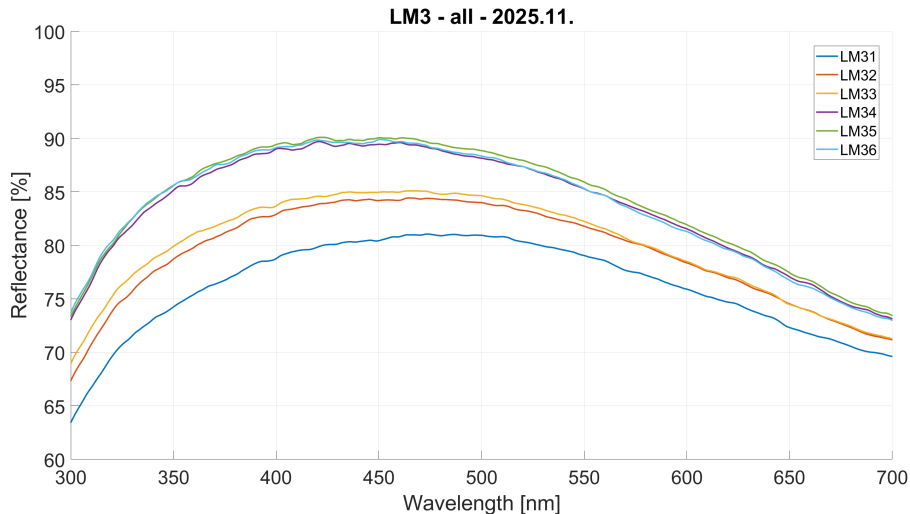


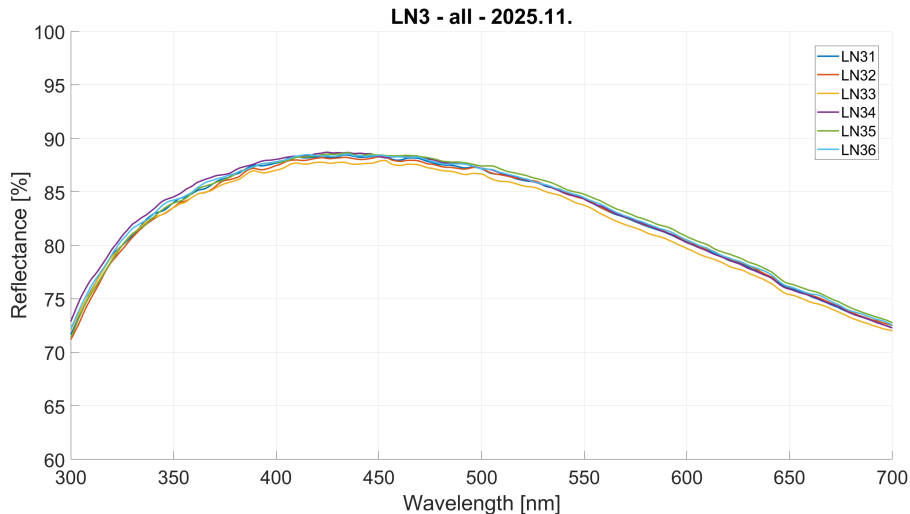
^aIAP, Karlsruhe Institute of Technology , Germany,
^dITEDA, University of General San Martín , Argentina,
^cPalacký University Olomouc , Czech Republic,
^dASCR, Czech Academy of Sciences , Czech Republic,
^eIASF, National Institute for Astrophysics , Italy,
^fOn site, Pierre Auger Observatory , Argentina

December 2025

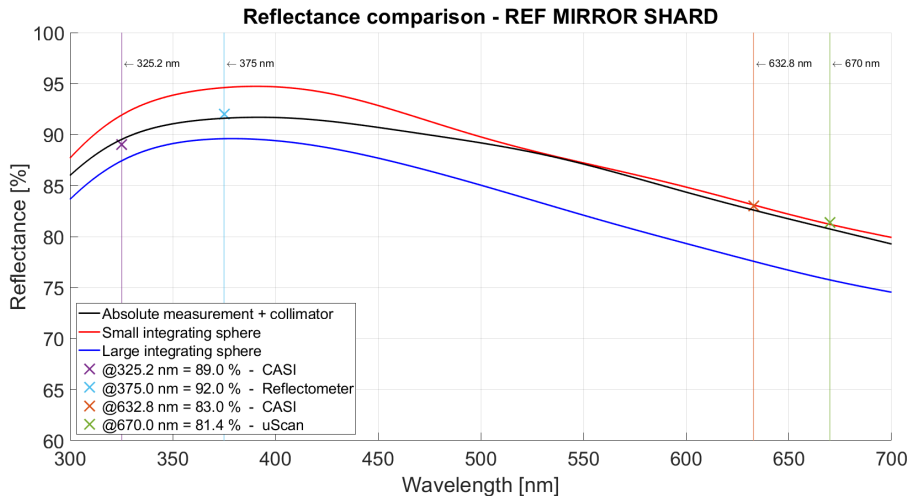
Abstract

We describe the recent mirror cleaning campaign at Los Morados and analyze the pixel calibration constants before and after the cleaning procedure. We measure a de-

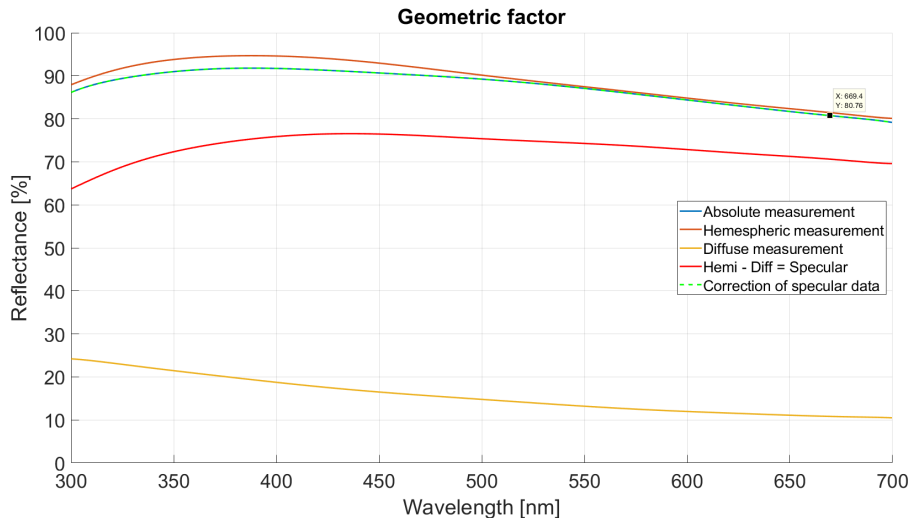




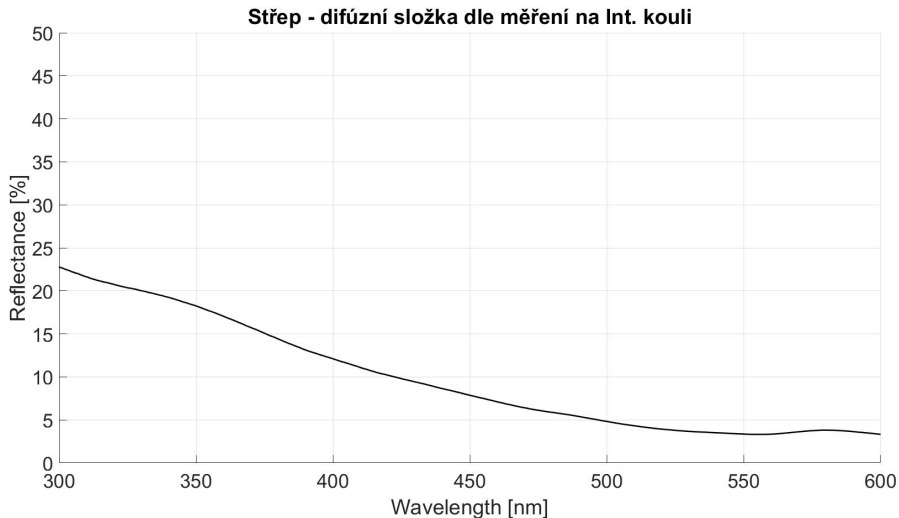
Avantes – měření referenčního střepu



Avantes – hemisférická a difúzní – odečteno



Avantes – difúzní reflektivita referenčního střepu



Avantes – difúzní reflektivita srovnaná s CASI

Table 2. Results of measurements on the CASI system of the segment dismounted from Caihueco, telescope 2, position 58.

State of the mirror segment	RMS [Å]	$R_{C,spec}$ @ 325 nm	$R_{C,diff}$ @ 325 nm
After 12 years of operation	216 ± 10	78 ± 1	15 ± 1
Cleaned by dry-air (dry method)	79 ± 5	84 ± 1	4 ± 1
Cleaned by water (wet method)	56 ± 5	90 ± 1	< 1

