

ELT – MICADO

Phase C

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Change record

Issue/Rev.	Date	Affected Sections	Reason/Initiation/Documents/Remarks
1.0	09/03/2021	All	Initial document
1.1	22/04/2021	2	Update to place references in tabular environment.

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1 Scope

Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like “Huardest gefburn”? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

2 References

2.1 Applicable Documents

The following Applicable Documents (AD) of the exact issue contain provisions (statements, instructions, recommendations or requirements) that are ruling over - and implicate provisions in the present document.

RD Nr	Document Number	Document Title	Issue	Date
[AD1]	ESO-037611	<i>Dataflow for ESO Observatories Deliverables Standard</i>	4	03/02/2020
[AD2]		<i>Penguin Land and Further North: Human Influence</i> Dennis E. Harvey Jr.		1567

2.2 Reference Documents

The following Reference Documents (RD) contains useful information relevant to the subject of the present document.

RD Nr	Document Number	Document Title	Issue	Date
[RD1]	ELT-PLA-MCD-56301-0004	<i>MICADO Operational Concept Description</i>	2.0	03/09/2018
[RD2]	ELT-MCD-TEM-563XX-YYYY	<i>MICADO Document Template with a long title</i> J.A. van den Born	1.0	03/09/2021
[RD3]		“Fast calculation method for optical diffraction on tilted planes by use of the angular spectrum of plane waves” Kyoji Matsushima, Hagen Schimmel, and Frank Wyrowski		09/2003

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2.3 Acronyms

This document employs several abbreviations and acronyms to refer concisely to an item, after it has been introduced. The following list is aimed to help the reader in recalling the extended meaning of each short expression:

AD	Applicable Documents
AO	Adaptive Optics
ELT	Extremely Large Telescope
MICADO	Multi-AO Imaging Camera for Deep Observations
PSF	Point Spread Function
RD	Reference Documents

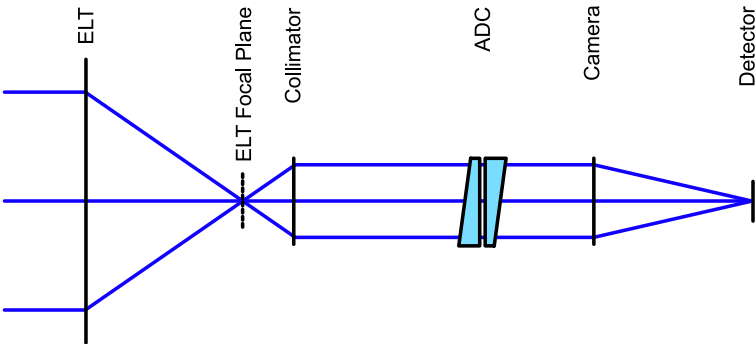


Figure 4.1: A paraxial model that we use to model the ELT-MICADO system.

3 Introduction

Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like “Huardest gefburn”? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

3.1 A subsection with references

There is no reference to AD1, but there is a reference to [AD2]. Nonetheless, both get printed in Section 2.1!

This is a reference to a Reference Document: [RD1, RD2, RD3]. Only reference documents that are cited in the text are printed in Section 2.2.

The Multi-AO Imaging Camera for Deep Observations (MICADO) is an upcoming instrument for the Extremely Large Telescope (ELT). PSF is shorthand for Point Spread Function. A quick way to say the same, would have been to write: Point Spread Function (PSF).

4 A section with a table, figures and an equation

Table 4.1 shows the constants and values used in a model. Figure 4.1 is interesting, but Figs. 4.2 and 4.3 are the same!

We could also discuss some equations. Look at eq. (4.1), for example.

$$E = mc^2 \tag{4.1}$$

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Table 4.1: The system model constants as used in the analyses. Since the three smaller wheels are identical, these generally have the same values for the constants.

Type	Constant	Value	Unit	Note
Friction	B_1	0.05	Nm s deg ⁻¹	Complete guess
	B_2	0	Nm s deg ⁻¹	By design (?)
	B_3	0.05	Nm s deg ⁻¹	Complete guess
	B_4	0.05	Nm s deg ⁻¹	Complete guess
Mass	m_1	0.033	kg	From technical drawing
	m_2	5.0	kg	From ADC prototype design
	m_3	0.033	kg	From technical drawing
	m_4	0.033	kg	From technical drawing
Radius	r_1	0.016	m	From technical drawing
	r_2	0.101	m	Derived from r_1 and gear ratio.
	r_3	0.016	m	From technical drawing
	r_4	0.016	m	From technical drawing
Spring constant	K	0.924	Nm deg ⁻¹	Torsional stiffness of axial coupling

are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

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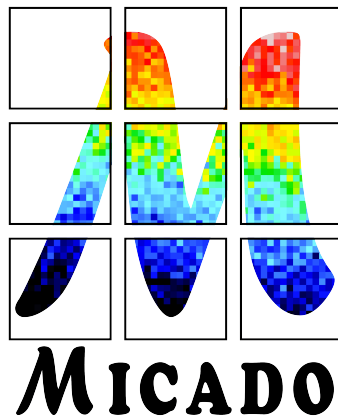


Figure 4.2: Here's one image of the MICADO logo

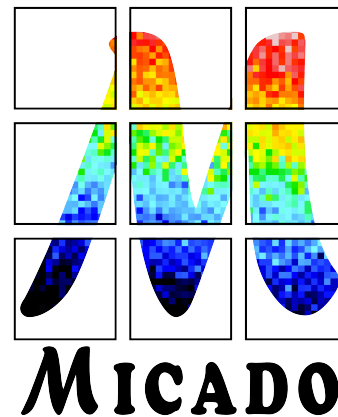


Figure 4.3: Here's another copy of the MICADO logo

Appendices

A Some very useful code

You could place some code that you used in the Appendix.

```

1 import numpy as np
2 import astropy.units as u
3 from scopesim import UserCommands, OpticalTrain
4 from scopesim_templates.basic.stars import stars
5
6 stars = stars( filter_name="Ks",
7               amplitudes=np.linspace(18, 23, 6)*u.mag,
8               spec_types=["A0V", "G2V", "K0III"]*2,
9               x=np.linspace(-1, 1, 6),
10              y=[0]*6)
11
12 cmds = UserCommands(use_instrument="MICADO_Sci",
13                   set_modes=["SCAO", "SPEC"],
14                   properties={"!OBS.dit": 3600,
15                             "!SIM.spectral.wave_mid": 1.578,
16                             "!SIM.spectral.spectral_resolution": 0.00001,
17                             "!DET.height": 2048,
18                             "!DET.width": 800})
19
20 micado_spec = OpticalTrain(cmds)
21 micado_spec.observe(stars)
22 micado_spec.readout(filename="basic_spectral_trace.fits")

```

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