

70 CM TELESKOP

Title: Mounting and dismounting
procedure of the CCD LOR #130M

Doc. Number: 001

Issue: 1.0

Issue date: 15.08.2019

Max-Planck-Institut für Astronomie
Königstuhl 17
D-69117 Heidelberg



Signature and Approval		
	Name	Date
Prepared	Conchi Cardenas	14.05.2019
Checked	Vianak Naranjo Armin Huber	07.06.2019
Approved	Conchi Cardenas	15.08.2019

REVISION HISTORY

ISSUE	DATE	OWNER	CHANGES
DRAFT	16/07/2018	CONCHI	Draft version
1.0	15.07.2019	CONCHI	Realised version

ABBREVIATIONS AND ACRONYMS

CCD Charge-Coupled Device

KING Königstuhl Instrument zum in den Nachthimmel Gucken

LOR LORal manufacturer

MPIA: Max-Planck-Institut für Astronomie

TABLE OF CONTENTS

REVISION HISTORY	3
ABBREVIATIONS AND ACRONYMS.....	3
TABLE OF CONTENTS	4
LIST OF FIGURES.....	4
1. INTRODUCTION.....	5
2. TOOLS AND MATERIAL	5
3. DISMOUNTING PROCEDURE.....	6
4. MOUNTING PROCEDURE	9

LIST OF FIGURES

· Figure 1-1: CCD's dewar installed at the Cassegrain focus of the telescope.	5
· Figure 3-1: Telescope control electronics module.	6
· Figure 3-2: Unplugging the CCD electronics.....	6
· Figure 3-3: Cables to the CCD	7
· Figure 3-4: Interface screws.....	7
· Figure 3-5: View to the CCD detector.	8

1. INTRODUCTION

This document describes the dismounting and mounting of the CCD LOR #130 at the Cassegrain focus of the 70 cm telescope (Figure 1-1).

The CCD LOR #130 is a science grade 2kx2k back-illuminated, nitrogen-cooled CCD sensor. This CCD sensor is installed in a MPIA's dewar labelled as Dewar #23.



Figure 1-1: CCD's dewar installed at the Cassegrain focus of the telescope.

2. TOOLS AND MATERIAL

- Auxiliary table with antistatic mat.
- Allen key set.

3. DISMOUNTING PROCEDURE

- 1) The CCD must be at room temperature.
Check it using the CCD control software and assure that the dewar has no liquid nitrogen inside.
- 2) The telescope must be pointing close to zenith.
- 3) Check that the CCD is working properly.
Acquire an image and check the signal over the detector.
- 4) Switch the CCD electronics off:
 - a) Switch off the electronics of the telescope control and the instrumentation power by pressing (see Figure 3-1).
 Instrumentierung Aus
 and Netz Aus



Figure 3-1: Telescope control electronics module.

- b) Switch off the CCD electronics attached directly to the telescope and unplug the power cord (see Figure 3-2).



Figure 3-2: Unplugging the CCD electronics.

5) Disconnect the cabling of the CCD.

- a) Shutter cable (see <1> in Figure 3-3).
- b) Temperature control cable (see <2> Figure 3-3).
- c) The two cables of the Relaisbox (see <3> in Figure 3-3)

Note: the Relaisbox is not dismantled from the dewar!

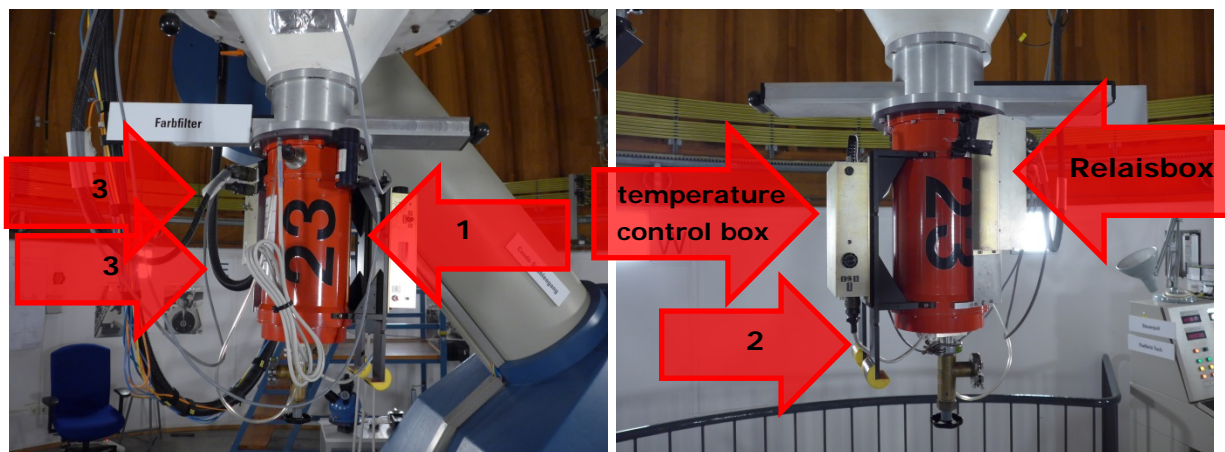


Figure 3-3: Cables to the CCD

6) Prepare a table in the dome with an antistatic mat on it.

7) Remove the screws of the interface (see Figure 3-4).

The weight of the CCD's dewar is around **12 kg**.

It can be easily handled by 2 persons. A third person will remove the screws.

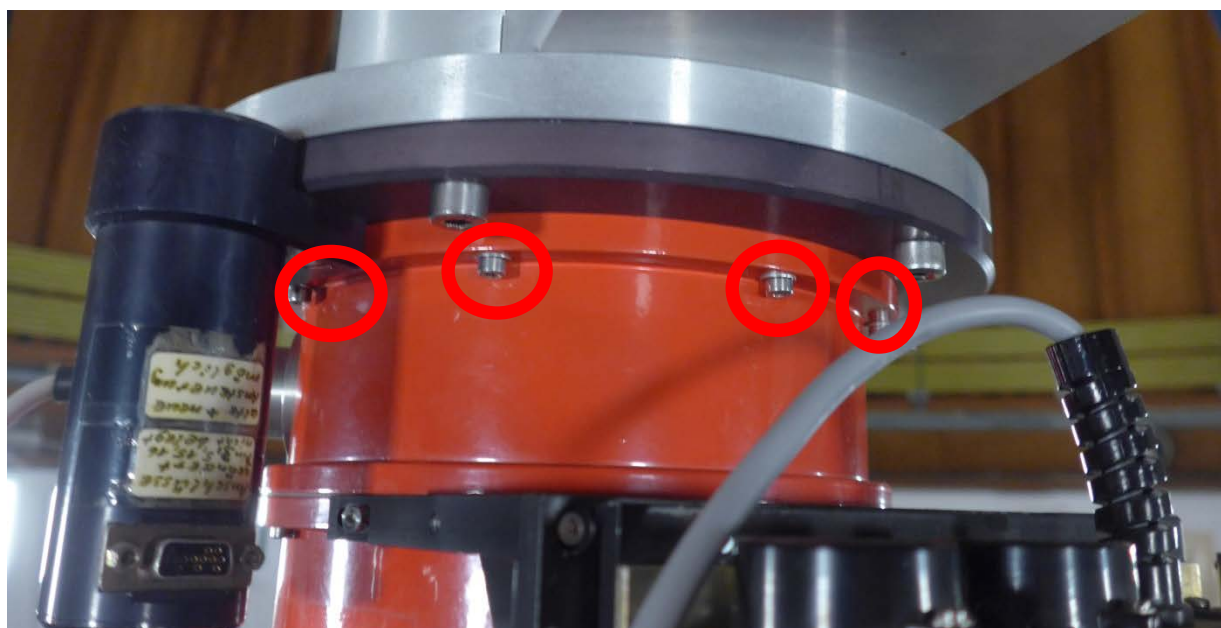


Figure 3-4: Interface screws.

- 8)** Leave the CCD dewar on the table laying on the temperature control box side (Figure 3-3 and Figure 3-5).

It is completely safe and stable for the CCD to lay on this side.

Note: There is no need of antistatic armband during manipulations of the CCD dewar, in particular to clean the window, since the electronics is switched off.

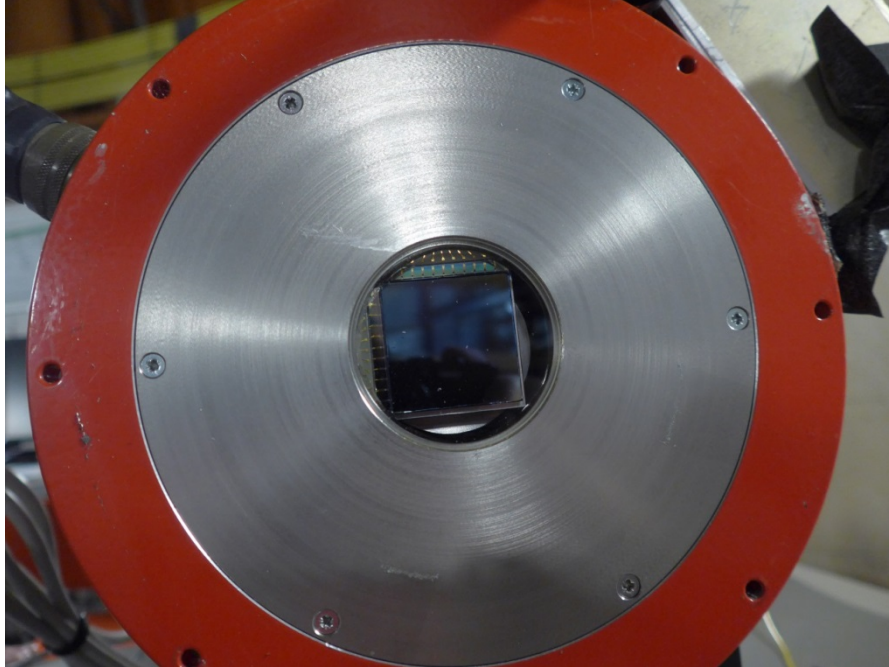
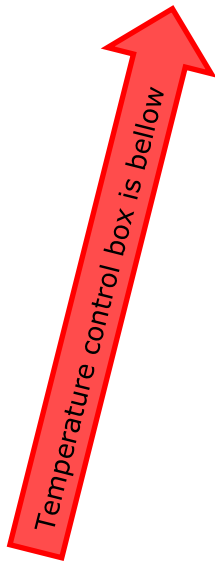


Figure 3-5: View to the CCD detector.



4. MOUNTING PROCEDURE

Follow the "Dismounting Procedure" described in section 3 in **inverse order**.

=====**End of document**=====