



**NATIONAL OBSERVATORY OF ATHENS  
Institute for Astronomy, Astrophysics,  
Space Applications and Remote Sensing**



**HELMOS OBSERVATORY**

**OPERATING REGULATIONS OF THE HELMOS OBSERVATORY**

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**of the Institute for Astronomy, Astrophysics, Space Applications and Remote Sensing**

**(March 2023 Version)**

**Article 1 ESTABLISHMENT – HEADQUARTERS - PURPOSE**

The Helmos Observatory (**H.O.**) was built on the Neraidorrachi top of Mt. Helmos (Aroanea Mountains), was inaugurated on 21 August 2007, and is a branch of the Institute for Astronomy, Astrophysics, Space Applications and Remote Sensing (**I.A.A.S.A.R.S.**) of the National Observatory of Athens (**N.O.A.**). Purpose of the H.O. is the execution and support of astronomical observations, as well as the development of astronomical instruments and technological devices and machinery to support the operations of a modern Observatory. Additional purpose of the H.O. is the dissemination of scientific knowledge to the public.

The H.O. includes the following buildings:

1. **“ARISTARCHOS” TELESCOPE BUILDING’**
2. **‘TELESCOPE CONTROL – LABORATORY – ACCOMMODATION BUILDING’**
3. **‘POWER GENERATORS AND WATER TANK BUILDING’**
4. **‘ELECTRIC POWER – TELECOMMUNICATIONS – STORAGE BUILDING’**
5. **‘HELMOS OBSERVATORY OFFICE IN KALAVRYTA’**

**Article 2 “ARISTARCHOS” TELESCOPE BUILDING’**

This building houses the “ARISTARCHOS” telescope (the dome considered as a telescope component) as well as the telescopes’ electrical – electronic – mechanical and hydraulic infrastructure.

**Article 3 ‘TELESCOPE CONTROL – LABORATORY – ACCOMMODATION BUILDING’**

This building includes the “ARISTARCHOS” telescope control room, the laboratory, and the dining and accommodation rooms (3 bedrooms with a total of 7 beds). The computer center of the Helmos Observatory is distributed in the control room of the "Aristarchos" telescope and its neighboring laboratory. Telescope and telescope control buildings are connected to each other by optical fiber, as well as to the rest of the world through the fiber optic network of the National Research and Technology Network.

#### **Article 4 'POWER GENERATORS AND WATER TANK BUILDING'**

In this building there are the generators for the production of electricity as well as the water and fuel tanks.

#### **Article 5 'ELECTRIC POWER – TELECOMMUNICATIONS – STORAGE BUILDING'**

In this building it is located the medium voltage transformer of the Public Power Company, the antenna of the microwave link Helmos – Gerania – Penteli, the liquid nitrogen tank, as well as the storage area of the Helmos Observatory.

#### **Article 6 'HELMOS OBSERVATORY OFFICE IN KALAVRYTA'**

The Office of the Helmos Observatory in Kalavryta is located on the 2nd floor of the building of the Environmental Education Center and is the headquarters of the Helmos Observatory in the city of Kalavryta.

#### **Article 7 RESPONSIBILITIES AT HELMOS OBSERVATORY**

The Head of Infrastructure of the H.O. is appointed by the Director of I.A.A.S.A.R.S. and is assisted in his work by the Deputy Head of Infrastructure of the H.O., the Head of the "ARISTARCHOS" telescope, the Head of Scientific Instruments of the "ARISTARCHOS" telescope, the Chief Engineer of the H.O., the Head of the Computer Center of the A.H., and the Vehicle Manager of I.A.A.S.A.R.S. who are also appointed by the Director of I.A.A.S.A.R.S.

The Head of Infrastructure of the H.O. is fully responsible for the way it operates, for any works, renovations, etc., but has the obligation to inform the Director of I.A.A.S.A.R.S. and to discuss with him in detail any plans before taking any action. In addition, it submits an annual report of its activities to the Director of I.A.A.S.A.R.S. and informs about the future goals of improving its operation.

The Head of Infrastructure of the H.O. recommends to the Director the appointment of Action Teams and Action Managers according to the needs and activities of the H.O.

For any issue that arises, the Head of Infrastructure of the H.O. comes in contact with the Director of I.A.A.S.A.R.S., who has the responsibility to resolve this issue. The Director may bring any issue related with HELMOS Observatory to the Board of Directors of N.O.A. for central resolution if necessary.

The Head of Infrastructure of the H.O. takes care of the following:

- a) to keep clean and in good condition the premises of the H.O.
- b) to keep a record of the purchases made for the H.O. in the respective registers and keep photocopies of the purchase invoices.
- c) to keep an entry-exit book of staff working in the H.O.

The Head of Infrastructure of the H.O. manages the income and expenses of the H.O. in cooperation with the Director of I.A.A.S.A.R.S. He also prepares an annual budget to cover the basic expenses and its smooth operation. The budget is submitted to the Director of I.A.A.S.A.R.S. for further action. In case of a financial emergency beyond the initial one, the Head of Infrastructure of the H.O. requests in writing from the Director of I.A.A.S.A.R.S. the requested grant where he justifies the reasons why he needs it.

The Deputy Head of the H.O. deputizes for the Head of the H.O. in case of his/her absence.

The Head of the "ARISTARCHOS" telescope is responsible for and has the diligence of the "ARISTARCHOS" telescope and its accessories.

The Head of Scientific Instruments of the "ARISTARCHOS" telescope is responsible for and has the diligence of the cameras, spectrographs and other astronomical instruments of the "ARISTARCHOS" telescope.

The Chief Engineer of the H.O. has the responsibility and diligence of all the electromechanical equipment of the H.O.

The Head of the H.O. Computer Center has the responsibility and diligence of all the computer equipment of the H.O.

### **Article 8 OPENING HOURS OF HELMOS OBSERVATORY**

The opening hours and days of the H.O. are defined by the Head of Infrastructure of the H.O. in collaboration with the Deputy Head, the Head of the "ARISTARCHOS" telescope, and the Director of I.A.A.S.A.R.S. Regarding the calculation of the working hours in the H.O., in addition to the hours kept in the entry-exit book, the travel time from Penteli to the Helmos Observatory and vice versa (3 hours) is calculated as working time on the days of arrival and departure. Employment of more than 7.5 hours per day is considered overtime. Part of the overtime worked by staff may be covered by the granting of days off.

### **Article 9 ACCESS TO HELMOS OBSERVATORY**

The facilities of the Helmos Observatory are accessible to:

- (1) The Director of I.A.A.S.A.R.S.
- (2) The Head of Infrastructure of the Helmos Observatory.
- (3) The Deputy Head of the Helmos Observatory.
- (4) The Head of the "ARISTARCHOS" Telescope.
- (5) The Head of Scientific Instruments of the "ARISTARCHOS" telescope.
- (6) The Chief Engineer of H.O.
- (7) The Head of the H.O. Computer Center.
- (8) The in writing authorized researchers and technicians of I.A.A.S.A.R.S.
- (9) The staff of N.O.A. authorized by the Director of I.A.A.S.A.R.S. or the Head of Infrastructure of the H.O.
- (10) Observers (except I.A.A.S.A.R.S.) whose application for observation time with the "ARISTARCHOS" telescope has been approved by the telescope's Time Allocation Committee.
- (11) The visitors of the H.O., official or not, with the approval of the Director of I.A.A.S.A.R.S. or the Head of Infrastructure of the H.O., or the Deputy Manager, or the Head of the "ARISTARCHOS" telescope or the Head of Scientific Instruments of the "ARISTARCHOS" telescope.

Access and stay in H.O. is granted solely for official reasons.

### **Article 10 TRANSITION TO THE HELMOS OBSERVATORY**

When the road is open, the transition is done with the official vehicles. If there are adverse weather conditions (e.g. fog, etc.) employees judge the safety of the transition. In any case, when the staff drives

an official vehicle, they drive it with due care and always observing the Road Traffic Code (R.T.C.). At each transition, the staff fills in the driving order and the movement card of the vehicle. When the road is closed in winter due to snow, there are three ways to get to the mountaintop through the Kalavryta Ski Center (**K.S.C.**). The first way is with the lifts. The second way is with the two-seater snowmobile of the Helmos Observatory if someone is trained in its use or with another trained employee of I.A.A.S.A.R.S. The third way is with the tracked vehicles that are driven by the trained employees of the K.S.C. (there is a relevant agreement with the Ski Center). In this latter case, staff should be aware that the tracked vehicles go to the top a few times a day to make periodic paving on the tracks. Also, the Ski Center is open until 4 in the afternoon. Therefore, it is the responsibility of the employee to go to the Ski Center in time to have time to go to the observatory with the last ascent of the tracked vehicles every day (it is self evident that if someone arrives at the observatory e.g. 2-3 hours before the start of work for that day, these hours are not considered working hours and are not paid). In addition, the staff that goes to the H.O. must maintain the excellent cooperation relations between I.A.A.S.A.R.S. and the K.S.C. with mutual respect for the operational needs of both parties.

## **Article 11 DUTIES AND OBLIGATIONS OF STAFF WORKING AT THE HELMOS OBSERVATORY**

The staff located and work at the H.O.:

- (1) Are well aware of the Operating Regulations of the H.O. and signs the relevant document.
- (2) Sign the forms for the receipt of fixed assets for the equipment supplied to them by the Service. The equipment is an asset of the Helmos Observatory and the recipients of the equipment are responsible:
  - (a) to keep the equipment clean and in good condition,
  - (b) to use the equipment only for official purposes at the facilities of the Helmos Observatory, and
  - (c) in case of damage, are obliged to repair or replace it with equipment of the same quality.
- (3) Fill in the entrance - exit book.
- (4) Keep the place clean.
- (5) Perform the tasks assigned to them by the Director of I.A.A.S.A.R.S. or the Head officials.
- (6) Inform the Head officials about the progress of the works and any problems that may arise.
- (7) Report to the Head of Infrastructure of the H.O. any damages or malfunctions made during their stay at the H.O. or that they found to exist upon their arrival there. They are responsible for whatever happens in the premises during their stay, comply with all the prescribed health and safety regulations, and in case of damage caused by them, they are obliged to repair or replace it.
- (8) In the event of a failure or malfunction of the telescope or of a machine or component that requires superior electromechanical knowledge, the Chief Engineer of the H.O. is responsible to solve. Under no circumstances does the staff touch machines or components that they do not know their operation, except on the instructions of the Chief Engineer of the H.O. or the Actions Managers. Also, under no circumstances are visiting observers allowed to operate the "ARISTARCHOS" telescope or to touch machinery or components of the H.O., except of course of what is required for their work (computer, telephone, fax, etc.).
- (9) After the completion of the technical and other works in the H.O. the staff put the various tools they used back to place. Removal of tools, devices or accessories of the H.O. for use in other facilities of I.A.A.S.A.R.S. is allowed for a reasonable justified period of time, after consultation with the Head of Infrastructure of the H.O. In this case, a Delivery - Receipt form is completed and signed, as well as upon return of the items to the H.O.
- (10) Transitions of the staff for the execution of works in the H.O. are made following a transition order signed by the Director of I.A.A.S.A.R.S. The same applies to the execution of astronomical and other observations by the staff of I.A.A.S.A.R.S.

## **Article 12 COMPUTERS AT THE HELMOS OBSERVATORY**

The staff of I.A.A.S.A.R.S. must operate the PCs of the H.O. with care and only for their dedicated purposes. The PCs of the telescope are used exclusively for the operation and maintenance of the telescope and the PCs of the scientific instruments only for carrying out the observations. It is not allowed the installation of new programs on the telescope's PCs or instruments' PCs, unless it is approved by the Chief Engineer of the H.O. The visitors can only use the shared-used PCs of the H.O.

## **Article 13 SAFETY AND SECURITY MEASURES**

### **13.1 ASCENT TO AND DESCENT FROM THE HELMOS OBSERVATORY**

H.O. is located at an altitude of 2340 meters above sea level, where the atmospheric pressure is lower and the oxygen is thinner. Visitors with health problems affected by the altitude should consult their doctor before visiting the facilities of H.O. Moreover, visitors with chronic medical conditions which may require emergency measures (respiratory, cardiac, epilepsy, diabetes) should inform the permanent staff of the H.O. Heavy and strenuous works should be avoided shortly upon arriving at H.O. Especially during the winter season, road conditions should be checked before driving on Mount Helmos, to and from the H.O. Driving should be avoided in cases of road slipperiness. The atmospheric conditions should be monitored, during the visit and stay at the H.O. In case of extreme conditions (storm approaching, ice formations, etc.), the staff and visitors should close the facilities and leave the H.O. During the winter season, no one should stay and perform work at the H.O. during the hours that the Ski Center is not operating.

### **13.2 FIRST AID**

There is a first aid kit in the telescope control building. Personnel should regularly check the expiry dates of medicines, and request their replacement. In cases of accidents or illnesses that require medical treatment, the person should be moved to the Kalavryta Hospital (for telephone numbers see below "Article 18").

### **13.3 GENERAL SAFETY RULES OF PERSONNEL AND FACILITIES OF THE HELMOS OBSERVATORY**

- (1) For the safety of the personnel and the facilities, it is not allowed to share the access keys of the H.O. to any third party for any reason or to copy the key without the permission of the Head of the H.O.
- (2) The exterior doors of the buildings should remain closed, when no one is inside, to prevent guests or even lizards, mice, etc. from entering.
- (3) For security reasons, at least two (2) staff members of the H.O. should be present at any case.
- (4) Only bottled water can be consumed as drinking water. Tap water cannot be used as potable under no circumstances.
- (5) Safety helmets must be worn when working in the telescope area.
- (6) When performing special tasks (welding, etc.), the necessary protective equipment should always be used (safety glasses, etc.).
- (7) The handling of heavy machinery (elevating platforms, cranes, etc.) is done only by the authorized and trained staff of I.A.A.S.A.R.S.

- (8) In case of fire, call the Fire Department (199) immediately.
- (9) Smoking is prohibited at any area of the H.O.

### **13.4 SAFETY INSTRUCTIONS FOR THE TELESCOPE BUILDING**

- (1) Only the authorized personnel of the I.A.A.S.A.R.S. have access to the telescope building.
- (2) Visitors must be instructed about safety rules and must be accompanied in the telescope building by the authorized personnel of the IAASARS.
- (3) Any person entering the telescope building is responsible for his/her own safety.
- (4) Entrance to the electronics room (telescope control cabinet, telescope control computer, hydrostatic bearing unit) at the ground floor is not allowed. Entrance to these rooms is limited only to the authorized personnel.
- (5) In case there are people in the telescope building, the operator (from the control room) must press the warning button (a flashing light goes off, simultaneously with an audible alarm) before start moving the telescope or the dome.
- (6) Flammable liquids, gases and other dangerous substances are not allowed in the telescope building.

### **13.5 SAFETY INSTRUCTIONS FOR THE TELESCOPE AREA (2<sup>nd</sup> FLOOR OF THE TELESCOPE BUILDING)**

- (1) Only authorized personnel of the I.A.A.S.A.R.S. are allowed to enter the telescope area/enclosure.
- (2) Visitors must be instructed about safety rules and must be accompanied in the telescope area/enclosure by authorized personnel of the I.A.A.S.A.R.S.
- (3) A safe distance should be kept from the telescope and any moving mechanism.
- (4) Telescope operators work from the telescope control building. Before the start of any motion of the telescope or enclosure, the operator must assure that no one is in the telescope area. In case the personnel are working at the telescope area, the operator must press the button for the acoustic-optical signal
- (5) Opening the telescope shutter when the enclosure is opened during daytime is prohibited. Incoming sun radiation may damage the sensitive CCD sensors.
- (6) For the nitrogen filling routine for the scientific CCD camera, see the instructions! Due to the low temperature (-196°C) of liquid nitrogen, potential contact with the skin is dangerous if. Use safety goggles and safety gloves! Avoid inhaling the nitrogen vapors!

### **13.6 SAFETY INSTRUCTIONS FOR THE ENCLOSURE AREA**

- (1) Only authorized personnel are allowed to enter the enclosure area.
- (2) Visitors must be informed about safety rules and must be accompanied in the enclosure area by the authorized personnel of the I.A.A.S.A.R.S.
- (3) A safe distance should be kept from the telescope and any moving mechanism.
- (4) When working indoors, the enclosure must be kept closed.
- (5) After entering the enclosure floor (service platform), close the hatch.
- (6) Before entering and exiting, all motion within the enclosure and the telescope must be stopped.
- (7) In case the main hatch is blocked, use the emergency hatch on the opposite side of the platform.
- (8) If the enclosure is covered with snow or ice, set the telescope in the horizontal position before opening it. The installed heating system must be kept in the switched 'On' position during winter time to prevent the slit from freezing.
- (9) Opening the enclosure is not allowed under the following conditions:
  - wind speed > 15m/s
  - humidity > 80%
  - during or pending a storm

In case of a sudden storm, the dome must be closed immediately, the telescope must be placed in the 'PARK' position, the telescope's electronic system and PCs must be shut down and the personnel must leave.

(10) The personnel must wear helmets in the enclosure area. Moreover, people with long hair should tie their hair back.

(11) Before leaving the enclosure, ensure that the area is cleared of components which may fall during the movement or obstruct the telescope and enclosure movement.

## **Article 14 CONFIDENTIALITY**

The personnel must maintain confidentiality in any case of events or information of which they become aware during their duties. Confidentiality also applies to the observational data/projects of the respective observers. Also, strict confidentiality is important for sensitive information of the H.O., the "ARISTARCHOS" telescope and the scientific instruments, as well as the operating system, such as access codes, passwords, etc.

## **Article 15 BEHAVIOR**

The personnel must well-behave, on or off duty, in a manner which does not bring discredit on the institute or undermine public confidence.

## **Article 16 HIERARCHY ISSUES**

Concerning issues about the H.O. or the ARISTARCHOS telescope, the personnel should first discuss them with Heads and do not request a direct meeting with the Director without informing first the Heads. Bypassing the hierarchy of I.A.A.S.A.R.S is considered as disciplinary action.

## **Article 17 GENERAL**

This statute can be amended only after the agreement and recommendation of: The Director of I.A.A.S.A.R.S., the Head of H.O. Infrastructure, the Head of the "ARISTARCHOS" Telescope, and the Head of Scientific Instruments of the "ARISTARCHOS" telescope. In all cases, the provisions of the NOA internal Operating Regulations and the Civil Servant Code are applicable.

## **Article 18 USEFUL PHONE NUMBERS**

European emergency call number: 112

Kalavryta Police station: 26920 23333

Manicipality of Kalavryta: 26923 60400

Kalavryta Hospital: 26920 22222

Kalavryta Ski Center: 26920 24452

The current statute contains seventeen (18) articles, it was approved today 16/03/2023, and it is valid from this date.

Athens March 2023

DIRECTOR OF I.A.A.S.A.R.S.

Dr Spyros Basilakos