SIGHTS · KIATO & SIKYONIA

Kryoneri Observatory



High in the mountains above Kryoneri, at over 900 metres on Mount Kyllini and ringed by black pines and firs, stands the Kryoneri Observatory of the National Observatory of Athens. Founded in 1972, it houses a 1.2-metre telescope, one of the largest in Greece. Today, through the NELIOTA programme and with the support of the European Space Agency, it records asteroid impacts on the surface of the Moon. On its open-door astronomy nights, visitors can gaze at the brilliant star-filled skies of Zireia.

The Kryoneri Astronomical Station was founded in 1972 and is located near the village of Kryoneri in Corinthia, Greece. The station houses the 1.2m telescope of the Institute of Astronomy and Astrophysics (IAA) as well as a CCD camera as its main instrument. There is also a special unit for the aluminization of the telescope mirrors, as well as a mechanical and an electronic workshop. Every August, the IAA organises "Open Days" at the Kryoneri Station, during which organised visits for the general public, schools, etc. are conducted. For information regarding observation time with the 1.2m telescope, you can contact the Head of the Kryoneri Astronomical Station, Dr. A. Daperis.

Distance from Athens (straight-line distance): 105 km

The 1.2m telescope of the Kryoneri Astronomical Station

The 1.2m reflective telescope of the Kryoneri Observatory is a Cassegrain-type telescope. It was manufactured by the Grubb Parsons Co. in Newcastle and installed at the station in 1975. The optical system of the telescope consists of a 1.2-metre primary parabolic mirror with a focal ratio of f/3 and a 30.6cm secondary hyperbolic mirror. The mirrors are made of Zerodur material and have an aluminum coating.

The focal ratio of the telescope is f/13, its optical field is approximately 40', and the image scale is 12.5" / mm. The telescope has motion encoders on both axes, and the aiming accuracy is about 1'. The driving system is based on a modified equatorial mount.

The main instrument for observations on the telescope is a digital CCD camera with 516x516 pixels. The CCD camera is a Series 200 Camera System from Roper Scientific.

CCD type SI-502, Grade 1, UV-coated, 516 x 516 pixels

Chip cooling up to -40°C, Peltier system, (water circulation)

Amplification 5.17 e-/ADU (1x amplification), 1.23 e-/ADU (4x amplification)

Read noise 9.0 e- RMS (1x amplification), 7.5 e- RMS (4x amplification)

In the Cassegrain focus of the telescope, the CCD camera has an optical field of about 2.5' x 2.5', and the size of each pixel is around 0.30".

Section of the chip's collection capacity curve

nm 300 320 340 360 380 400 450 500 550 600 650

QE 0.19 0.25 0.29 0.35 0.40 0.41 0.46 0.64 0.64 0.65 0.64

The camera is accompanied by five "Bessel" filters (U, B, V, R, I). These filters are mounted on a special rotating wheel, which is controlled by a computer.

The digital CCD camera and the filter system are remotely controlled by a PC computer (Windows operating system). Camera operations are carried out using the PMIS program (GKR Computer Consulting), while the filters are rotated with simple commands on the serial port. Sequences of commands, stored in a text file, can be executed for automated observation series with the camera. The computer also has a time system (GPS on a PCI card) that is synchronized with satellites.

A second PC (with Windows and Linux systems) is used for collecting, processing, and analyzing the images taken with the camera. The computers are synchronized with each other and connected to a local network.

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