

The contribution from Calar Alto Zeiss 0.8 m Schmidt telescope



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Resident Astronomer at Calar Alto

Outline



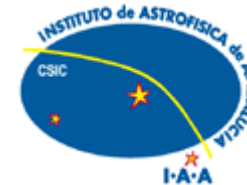
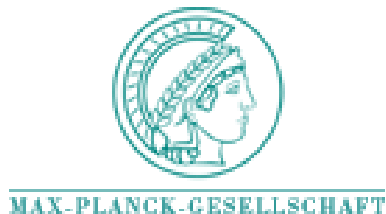
Observatorio de Calar Alto – Calar Alto Sternwarte Centro Astronómico Hispano Alemán (CAHA)

Max-Planck-Gesellschaft (MPG)

Max-Planck Institut für Astronomie, MPIA, Heidelberg

Consejo Superior de Investigaciones Científicas (CSIC)

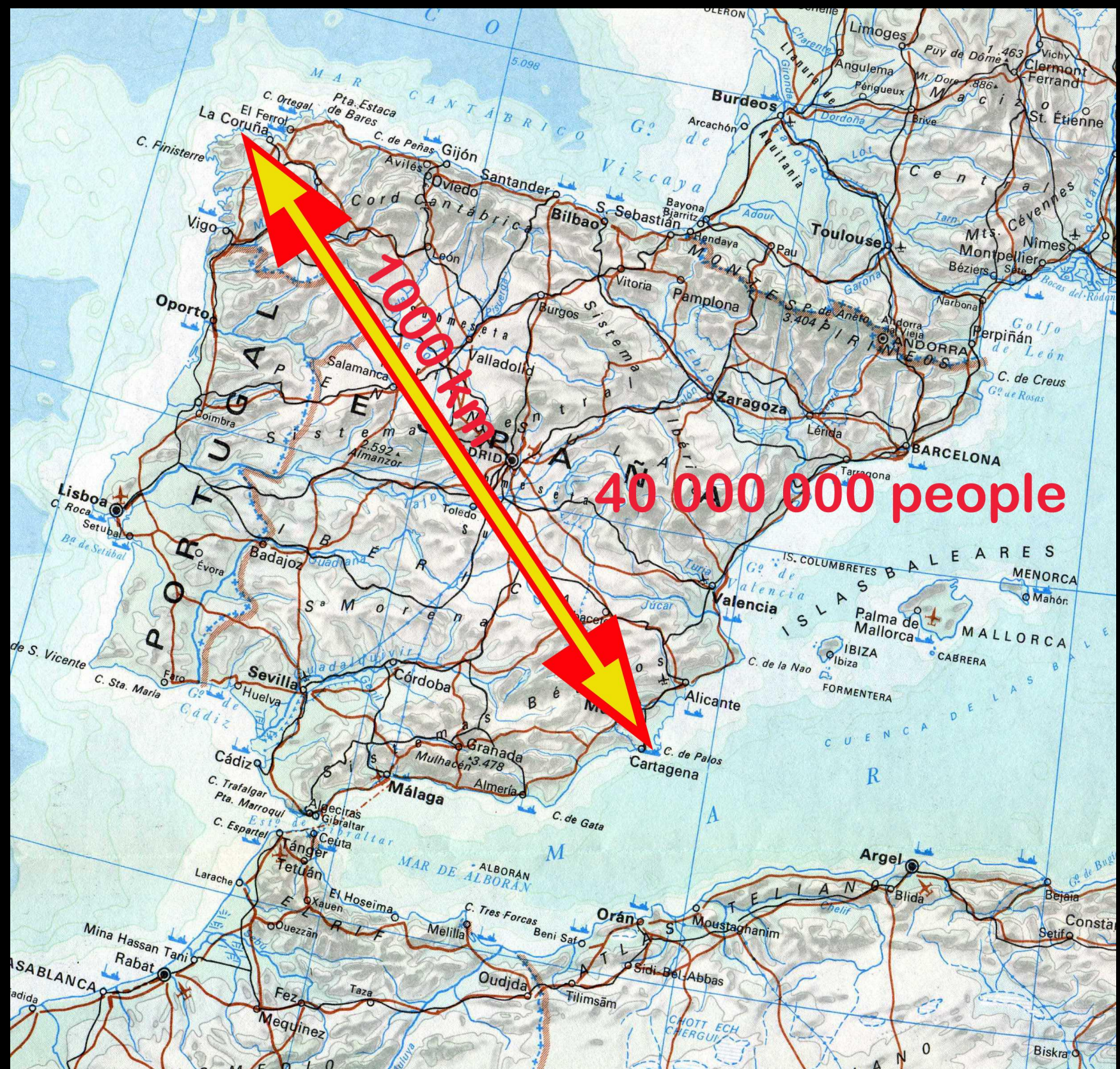
Instituto de Astrofísica de Andalucía, IAA, Granada











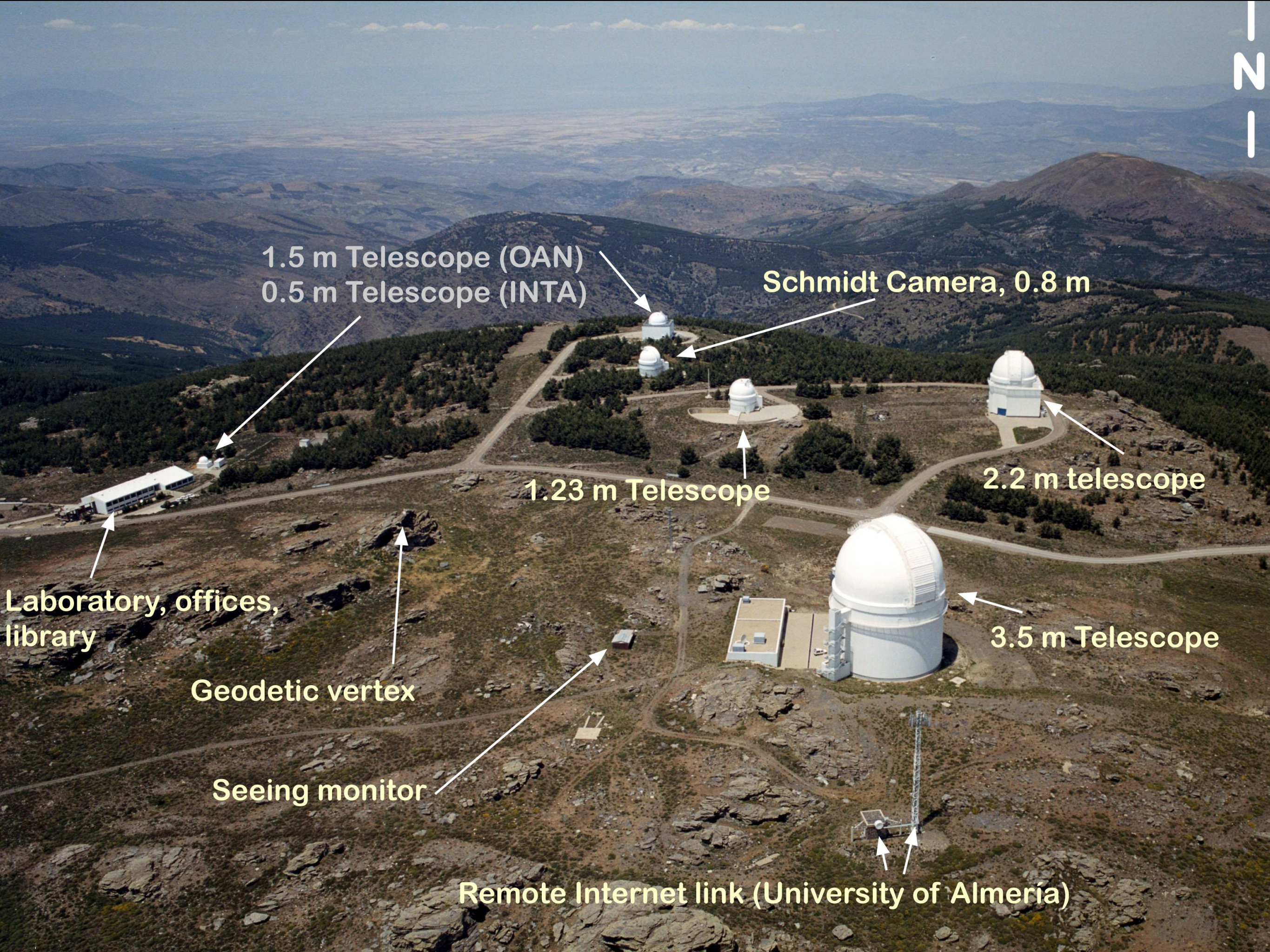




● Calar Alto

Latitude: $+37^{\circ}13'25''$ (N)
Longitude: $-2^{\circ}32'46''$ (W)
Altitude: $+2168$ m





1.5 m Telescope (OAN)
0.5 m Telescope (INTA)

Schmidt Camera, 0.8 m

1.23 m Telescope

2.2 m telescope

3.5 m Telescope

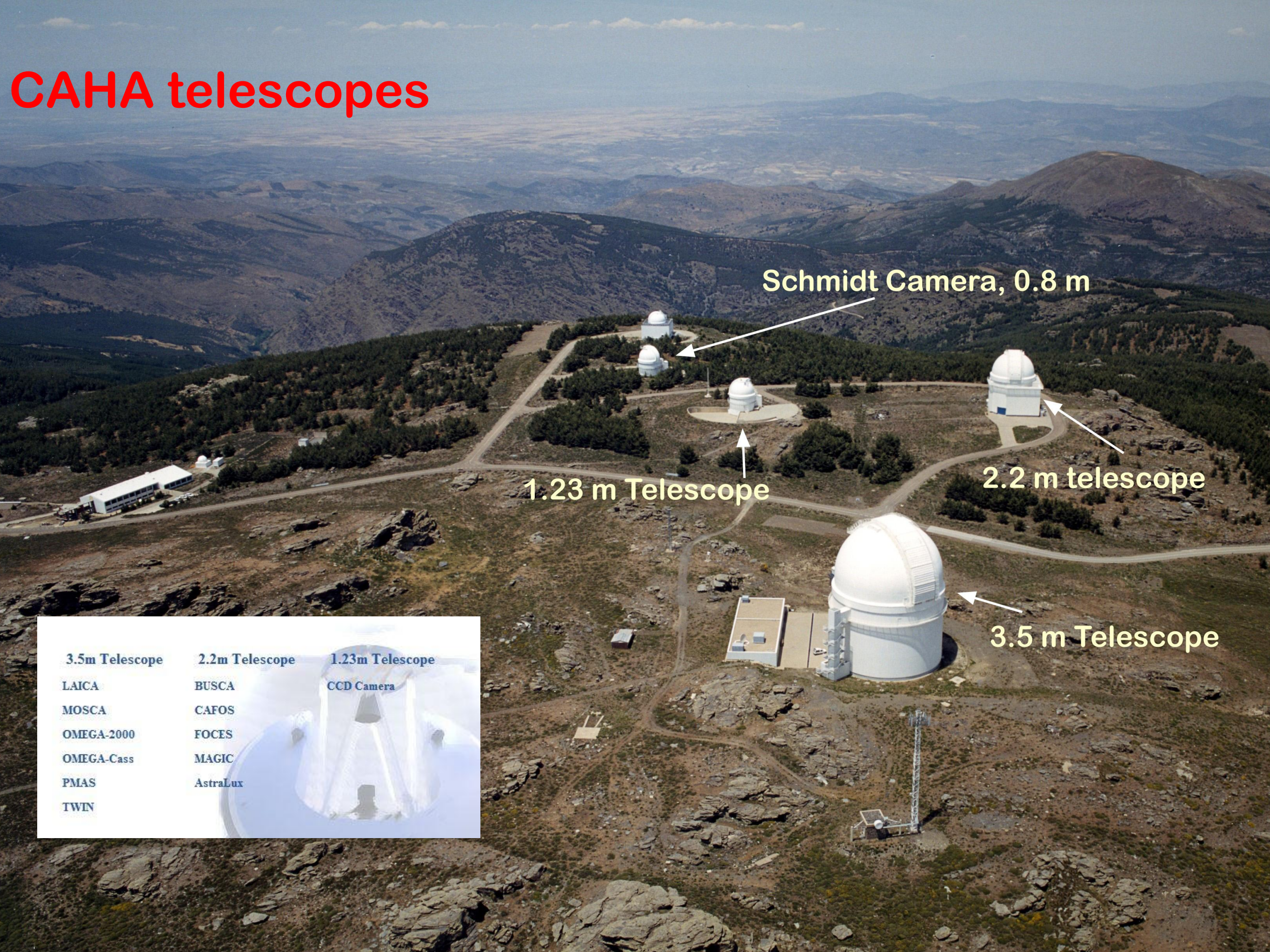
Laboratory, offices,
library

Geodetic vertex

Seeing monitor

Remote Internet link (University of Almería)

CAHA telescopes



Schmidt Camera, 0.8 m

1.23 m Telescope

2.2 m telescope

3.5 m Telescope

3.5m Telescope

LAICA

MOSCA

OMEGA-2000

OMEGA-Cass

PMAS

TWIN

2.2m Telescope

BUSCA

CAFOS

FOCES

MAGIC

AstraLux

1.23m Telescope

CCD Camera



Calar Alto Instruments:

1.23 m telescope:

- CCD camera for direct imaging

2.2 m telescope:

- BUSCA, 4-detector camera (4-band simultaneous imaging in visible light)
- CAFOS, focal reducer camera and spectrograph with polarimetric capability
- CAFÉ, échelle fiber-fed spectrograph (R 60 000)
- AstraLux, lucky imager in the near-infra-red
- PANIC, panoramic infra-red camera for surveys (FOV 30 arcmin)

3.5 m telescope:

- LAICA, 64 Mpix large area imager in visible light, 1 deg FOV
- MOSCA, focal reducer camera and spectrograph with polarimetric capability
- Omega-2000, second generation, high-performance IR camera
- PMAS, the world's largest FOV integral field spectrograph (1 arcmin)
- TWIN, long-slit, two-arm spectrograph (R up to 15 000)
- CARMENES, ni-res (85 000) two-arm (VIS & NIR) échelle spectrograph

Calar Alto Schmidt telescope:

Hamburg University 1955:

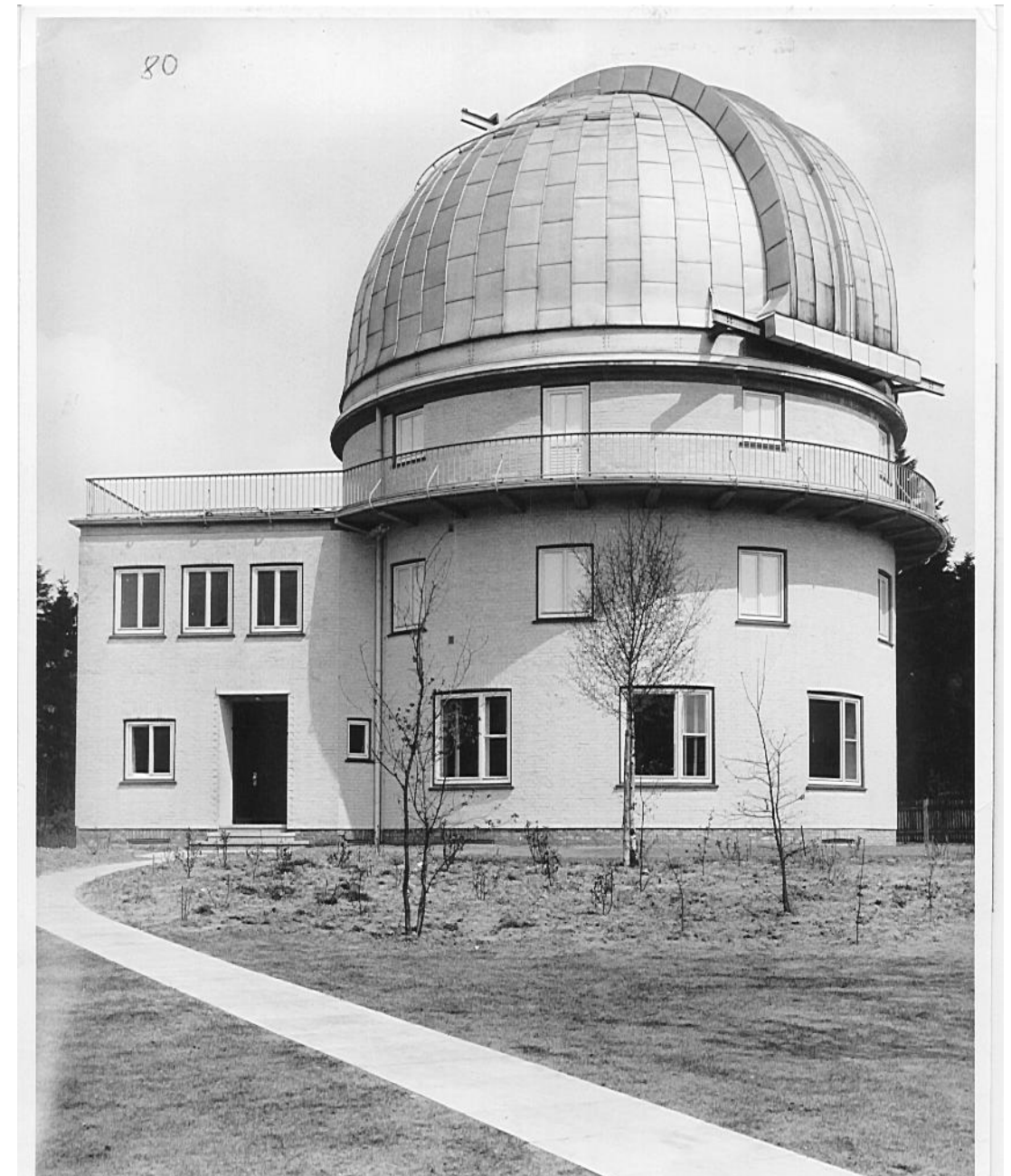
- Carl Zeiss Jena (Democratic Republic of Germany)
- Bernhart Schmidt design

Calar Alto 1980:

- New mount by Grubb (UK)

Features:

- Corrector plate: 80 cm
- Mirror: 120 cm
- Focal length: 240 cm (f/3)
- Photo plate holder field of view: 5.5 deg x 5.5 deg (8 x 8 should be possible)
- Scale: 86.2 arcsec/mm
- Two objective-prisms, many filters



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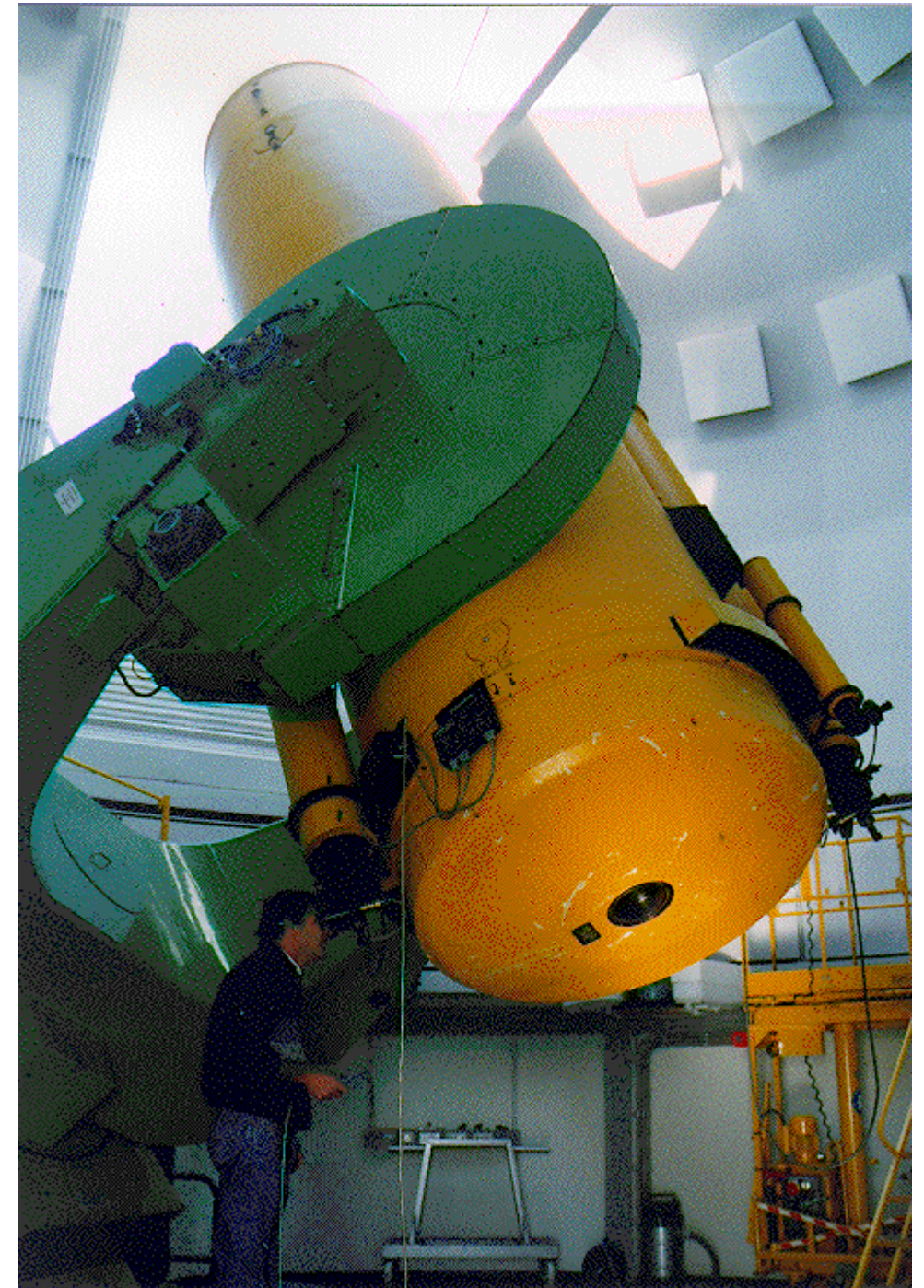
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Current CCD versus next model

	Current CCD ST-8 (provisional)	Proposed: IKON-LBV (Andor)
Field of view	20 x 13 arcmin (0.78 arcsec/px)	40 x 40 arcmin (1.16 arcsec/px)
Readout noise	15 e-	2.9 e-
Quantum efficacy	65 %	95 %
Readout time	20 sec	Less than 1 second
Cooling	Peltier to -20 °C	Peltier to -100 °C
Fringing supression technology	No	Yes
Dark current	1 e/s	0.0004 e/s

Remotely operated ESA scripting standard implemented

The screenshot displays the ScadaBR web interface, which is powered by Serotonin's Mango M2M. The interface is divided into two main sections: a login area on the left and a control panel on the right.

Login Area:

- ID de Usuario:** A text input field.
- Contraseña:** A text input field.
- Iniciar Sesión:** A button to initiate the login process.
- Fire:** A green checkmark icon next to the text "Este nav".

Control Panel:

The control panel is titled "Schmidt telescope control" and features a grid of controls for various telescope parameters and functions.

Schmidt telescope control		
ST: 07:23:15		UT: 15:41:32
RA: 07:22:38	DEC: 90:13:03	HA: 00:00:38
T. Az: 195	T. Elv: 37	DOME Az: 357.9
Hydraulic ON	Drivers ON	Handset ON
Tracking ON	DOME Auto ON	DOME Slit OPEN CLOSE
DOME Light ON FAINTER BRIGHTER		