

Acronyms List

AAT—*Anglo-Australian Telescope*
AGN – *Active Galactic Nuclei*
ALMA—*Atacama Large Millimeter Array*
AO—*Adaptive Optics*
AOF —*Adaptive Optics Facility*
APEX —*Atacama Pathfinder Experiment*
ARC —*ALMA Regional Center*
AURA—*Association of Universities for Research in Astronomy*
AzTEC — *Astronomical Thermal Emission Camera*
BAO —*Baryonic Acoustic Oscillations*
BOSS —*Baryonic Oscillation Spectroscopic Survey*
CARMA —*Combined Array for Research in Millimeter wave Astronomy*
CCD—*Charge Coupled Device*
CFHT *Canada-France-Hawaii-Telescope*
CMB —*Cosmic Microwave Background*
CoRoT—*Convection, Rotation and planetary Transits (satellite)*
CSO —*Caltech Submillimeter Observatory*
CTIO —*Cerro Tololo Inter-American Observatory*
E-ELT—*European Extremely Large Telescope*
ELT—*Extremely Large Telescope (generic term)*
ESA —*European Space Agency*
ESO —*European Southern Observatory*
FMOS —*Fibre Mult-Object Spectrograph*
FIR —*Far Infrared*
FSBs—*Frequency Selective Bolometers*
GAIA —*Global Astrometric Interferometer for Astrophysics*
GMT—*Giant Magellan Telescope*
GTM —*Gran Telescopio Milimétrico*
GTC—*Gran Telescopio Canarias*
HESS—*High Energy Stereoscopic System*
HET—*Hobby-Eberly Telescope*
HETDEX—*HET Dark Energy eXperiment*
HIPPARCOS—*High Precision Parallax Collecting Satellite*
HRS—*High Resolution Spectrograph (on SALT)*
HST—*Hubble Space Telescope*
INAOE – *Instituto Nacional de Astrofísica, Óptica y Electrónica*
IR—*Infrared*
IRSF—*IR Survey Facility (at SAAO)*
ISM – *Interstellar Medium*
JWST—*James Webb Space Telescope*
KAT—*Karoo Array Telescope (demonstrator for SKA)*
KELT—*Kilodegree Extremely Little Telescope*
LAMOST—*Large Mult-Object Spectroscopy Telescope*
LGS—*Laser Guide Star*
LBT—*Large Binocular Telescope*

LSST—Large Synoptic Survey Telescope
Monet—MONitoring NETwork (at HET and SALT)
NGAO Next Generation Adaptive Optics
NGS—Natural Guide Star
NIR—Near Infrared
NOAO—National Optical Astronomy Observatory
NTT—New Technology Telescope
OPTICON—Optical and Infrared Coordination Network
OWL—Overwhelmingly Large Telescope
PdBI—Plateau de Bure Interferometer
PRIMA—Phase Reference Imaging and Micro-arcsecond Astrometry
ReSTAR—Renewing Small Telescopes for Astronomical Research
RQQs —Radio Quiet Quasars
RSS—Robert Stobie Spectrograph (on SALT)
SAAO—South African Astronomical Observatory
SAC—Spherical Aberration Corrector (on SALT)
SASIR—Synoptic All-Sky Infrared Survey Telescope
SALT—South African Large Telescope
SALTICAM—SALT Imaging CAMera
SDSS—Sloan Digital Sky Survey
SFR – Star Formation Rate
SKA—Square Kilometre Array
SMA—Sub-mm Array
SMARTS—Small and Medium Aperture Research Telescope System
SMBH—Small Mass Black Holes
SNLS—Supernova Legacy Survey
SOFIA—Stratospheric Observatory for Infrared Astronomy
SPEED – SPECTral Energy Distribution
STScI—Space Telescope Science Institute
SZ —Sunyaev Zel’dovich
TMT—Thirty Meter Telescope
ToO—Target-of-Opportunity
T-ReCS—Thermal Region Camera Spectrograph
TSIP—Telescope System Instrumentation Program
UKIDSS United Kingdom Infrared Deep Sky Surveys
UKIRT United Kingdom Infrared Telescope
UMass – University of Massachusetts
VISTA Visible and Infrared Survey Telescope Assembly
VLBA – Very Long Baseline Array
VLBI – Very Long Baseline Interferometry
VLT—Very Large Telescope
VLTI Very Large Telescope Interferometer
VST VLT Survey Telescope WASP-- Wide Area Search for Planets
WET—Whole Earth Telescope
WFCAM—Wide Field CAMera (on UKIRT)
WFMOS—Wide Field Multi-Object Spectrometer



A number of 8-10m class telescopes are now in operation, the latest of these, the GTC, is starting to produce scientific data on a routine basis. Meanwhile, the next generation of large telescopes is now on the drawing boards both in Europe and the USA. Also the James Webb Space Telescope (JWST), the successor to the Hubble Space telescope, is on its fast track to launch in 2014. With this panorama in mind, the GTC inauguration offered an ideal occasion for the Instituto de Astrofísica de Canarias (IAC) to organise an exchange of ideas on the role of the 8-10 m telescopes when the new generation of giant telescopes and space observatories comes on line. Other topics debated included the professional future of young astronomers confronted with the extremely competitive access to these giant telescopes, and the implications of the scarcity of observing time available to the astronomical community at large.

An elite group of influential astronomers gathered on the Island of La Palma to discuss the above points, as well as present their views on the future trends of astronomy that will be allowed by the current and the extremely large future facilities, and to join the celebration of the GTC's Inauguration by H.M. the King of Spain on July 24, 2009. Their talks and conclusions have been collected together in this volume, which has been published by the Ramon Areces Foundation.

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