

# **ESOFORM PDF<sub>TEX</sub> MACROS**

## **USERS' MANUAL FOR PHASE 1 PROPOSALS**

**European Southern Observatory**

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### **Period 80 Director Discretionary Time**

This Users' Manual and the whole ESOFORM Package is maintained by the Visiting Astronomers Department (VISAS), while the background software is provided by the User Support System (USS) Department.

# 1 INTRODUCTION

The ESOFORM package has been designed to enable a fully electronic preparation and submission of applications for observing time at the European Southern Observatory, for all telescopes located at the La Silla Paranal observatory.

**Getting help.** Should you need assistance from ESO to prepare your proposal, please send emails to the address [esoform@eso.org](mailto:esoform@eso.org) for questions relative to the ESOFORM package as well as for more general questions about instrument performance, Observatory policy, etc.

## 1.1 How to Obtain the New ESOFORM DDT Proposal Package

The ESOFORM DDT Proposal Package may be obtained over the web via the URL:

<http://www.eso.org/observing/proposals/esoform.html>.

## 1.2 Description of the Content of the ESOFORM DDT Proposal Package

The ESOFORM DDT package consists of:

- a  $\text{\LaTeX}$  class file (`esoform.cls`), which, together with the style files `common2e.sty` and `config.sty`, defines all the macros required to generate the application form for DDT Programmes;
- a template proposal (`templateDDT.tex`) for DDT Programme applications, which the users may edit directly in order to create a new proposal;
- this Users' Manual (`usersmanualDDT.tex`), which contains all the information required to fill the templates, as well as instructions on the electronic submission of proposals (via the Web-based WASP interface);
- a short README file.

## 1.3 General Features

The present manual describes the use of the ESOFORM DDT template, which is composed of macros that are defined in the ESOFORM class and style files. The macros allow the computer controlled typesetting of applications for Director Discretionary Time at ESO. If you are already familiar with  $\text{\TeX}$  or  $\text{\LaTeX}$ , you will probably have no difficulty using the macros provided. You should follow the instructions given below and keep in mind that all your input must conform to the standard  $\text{\LaTeX}$  rules.

The ESOFORM DDT package has been prepared with the following version of pdf $\text{\LaTeX}$ : pdf $\text{\TeX}$ , Version 3.141592 (Web2C 7.5.5). If you encounter any serious pdf $\text{\TeX}$  or pdf $\text{\LaTeX}$  problem, please send an email to the address [esoform@eso.org](mailto:esoform@eso.org), describing the problem and indicating which version of pdf $\text{\LaTeX}$  you are using. For ease of use, we have adopted and already included a number of  $\text{\LaTeX}$  definitions of commonly used astronomical symbols in the class file `esoform.cls` (see list in Table 1).

For every observing period, the layout of the instruments will be updated according to the anticipated availability of instruments at the La Silla Paranal Observatory. *Please note that **only** proposals prepared using the **latest** version of ESOFORM will be valid and accepted by ESO.*

# 2 RECENT CHANGES IN THE ESOFORM PACKAGE

The main new features or changes introduced in the ESOFORM package in the last two periods are summarised below.

- The proposal can only be submitted by logging into the ESO User Portal at

<http://www.eso.org/UserPortal>.

Table 1: Astronomical L<sup>A</sup>T<sub>E</sub>X Symbols

<code>\ang</code>	Å	<code>90\deg</code>	90°	
<code>\halpha</code>	H $\alpha$	<code>16\sqdeg</code>	16deg <sup>2</sup>	
<code>\hbeta</code>	H $\beta$	<code>28\arcmin</code>	28′	
<code>\hgamma</code>	H $\gamma$	<code>11\arcsec</code>	11″	
<code>\lya</code>	Ly $\alpha$	<code>5\fd4</code>	5 <sup>d</sup> 4	
<code>\lyb</code>	Ly $\beta$	<code>8\fh2</code>	8 <sup>h</sup> 2	
<code>\mv</code>	$m_V$	<code>2\fm56</code>	2 <sup>m</sup> 56	
<code>\Mv</code>	$M_V$	<code>10\fs08</code>	10 <sup>s</sup> 08	
<code>\ubvr</code>	UBVR	<code>23\fdg12</code>	23°12	
<code>\ub</code>	$U-B$	<code>3\farcm6</code>	3′6	
<code>\bv</code>	$B-V$	<code>0\farcs27</code>	0′27	
<code>\vr</code>	$V-R$	<code>0\fp4</code>	0 <sup>p</sup> 4	
<code>\ur</code>	$U-R$	<code>\onehalf</code>	$\frac{1}{2}$	
<code>\jhk</code>	JHK	<code>\onethird</code>	$\frac{1}{3}$	
<code>\jh</code>	$J-H$	<code>\twothirds</code>	$\frac{2}{3}$	
<code>\hk</code>	$H-K$	<code>\onequarter</code>	$\frac{1}{4}$	
<code>\jk</code>	$J-K$	<code>\threequarters</code>	$\frac{3}{4}$	
<code>\ion{C}{4}</code>	C IV	<code>\slantfrac{{22}}{{7}}</code>	$\frac{22}{7}$	(braces unless one character)
<code>3.6\micron</code>	3.6 $\mu$ m	<code>\squig\$</code>	~	(math mode only)
<code>25\kms</code>	25 km s <sup>-1</sup>	<code>\lesssim\$</code>	≈	(math mode only)
<code>\peryr</code>	yr <sup>-1</sup>	<code>\gtrsim\$</code>	≈	(math mode only)
<code>M\subsun</code>	$M_{\odot}$	<code>\la\$</code>	≈	(math mode only)
<code>\sun</code>	☉	<code>\ga\$</code>	≈	(math mode only)
<code>\earth</code>	⊕	<code>\nodata</code>	...	(tables only)
<code>\sq</code>	□			

- The PI’s name, institution and affiliation are no longer entered in the proposal. Instead only the PI’s ESO User Portal username is required. The proposal receiver will automatically convert this to the PI’s details on submission of the completed application. Co-investigators’ names, institutions and countries should be filled out in full as before.
- Proposals that contain input outside the ESOFORM macros are now rejected by the proposal reception system.
- As of Period 80, it is possible to specify more than one alternative run per primary run.
- The ESOFORM includes a string called the “Total amount of time” in Box 2. This amount of time is computed only when the proposal is submitted; when compiling locally this field remains blank. This is a normal feature, and proposers should not be concerned about it. The total amount of time is useful when assessing the entire proposal.
- For APEX, only one run can be specified for each instrument.
- For APEX, the amount of Precipitable Water Vapour and the acceptable Local Sidereal Time interval of the observation must be specified in the target list.
- A new macro (`\HasTimingConstraints`) has been introduced to flag in a generic manner programmes requesting observations to be executed at specific times or specific time intervals.

### 3 HOW TO FILL A DDT PROGRAMME TEMPLATE

As mentioned in the Introduction, you should fill in with your favourite editor the template file (`templateDDT.tex`). The easiest way to write a proposal is to modify the file `templateDDT.tex` by following the examples therein

and the detailed instructions given in the present manual. Input in the template is allowed **only within the arguments of the provided ESOFORM macros**. The presence of text **outside** the macro arguments will lead to **rejection** of the proposal by the automatic proposal reception system (see Sect. 4).

### 3.1 The Cycle, the Title, the Subcategory Code: BOX 1

- `\Cycle` contains the current Period ID and should NOT be modified by the users;
- `\Title` must contain the title of the application (up to two lines);
- `\SubCategoryCode` must contain only one subcategory code, corresponding to the keyword (see Table 2) best summarizing the aim of your proposal. For example, a study of high-redshift clusters of galaxies will have the code A5;
- `\ProgrammeType` should always be DDT for DDT Proposals.

```
\Cycle{80Z}  
\Title{AGN host galaxies}  
\SubCategoryCode{B9}  
\ProgrammeType{DDT}
```

### 3.2 The Abstract: BOX 2

### 3.3 Information about the Different Runs: BOX 3

```
\ObservingRun{A}{ }{}{}{}{}{}{}{}{}
\ObservingRun{B}{ }{}{}{}{}{}{}{}{}

```

Table 2: ESO OPC categories and subcategories

Panels	Categories	Code	Subcategories
<b>A</b>	Cosmology	A1	Surveys of AGNs and high-z galaxies;
		A2	Identification studies of extragalactic surveys;
		A3	Large scale structure and evolution;
		A4	Distance scale;
		A5	Groups and clusters of galaxies;
		A6	Gravitational lensing;
		A7	Intervening absorption line systems;
		A8	High-redshift galaxies (star formation and ISM).
<b>B</b>	Galaxies and galactic nuclei	B1	Morphology and galactic structure;
		B2	Unresolved stellar populations;
		B3	Chemical evolution;
		B4	Galaxy dynamics;
		B5	Peculiar/interacting galaxies;
		B6	Non-thermal processes in galactic nuclei (incl. QSRs, QSOs, blazars, Seyfert galaxies, BALs, radio galaxies, and LINERS);
		B7	Thermal processes in galactic nuclei and starburst galaxies (incl. ultraluminous IR galaxies, outflows, emission lines, and spectral energy distributions);
		B8	Central supermassive objects;
		B9	AGN host galaxies.
<b>C</b>	ISM, star formation and planetary systems	C1	Gas and dust, giant molecular clouds, cool and hot gas, diffuse and translucent clouds;
		C2	Chemical processes in the interstellar medium;
		C3	Star forming regions, globules, protostars, HII regions;
		C4	Pre-main-sequence stars (massive PMS stars, Herbig Ae/Be stars and T Tauri stars);
		C5	Outflows, stellar jets, HH objects;
		C6	Main-sequence stars with circumstellar matter, early evolution;
		C7	Young binaries, brown dwarfs, exosolar planet searches;
		C8	Solar system (planets, comets, small bodies).
<b>D</b>	Stellar evolution	D1	Main-sequence stars;
		D2	Post-main-sequence stars, giants, supergiants, AGB stars, post-AGB stars;
		D3	Pulsating stars and stellar activity;
		D4	Mass loss and winds;
		D5	Supernovae, pulsars;
		D6	Planetary nebulae, nova remnants and supernova remnants;
		D7	Pre-white dwarfs and white dwarfs, neutron stars;
		D8	Evolved binaries, black-hole candidates, novae, X-ray binaries, CVs;
		D9	Gamma-ray and X-ray bursters;
		D10	OB associations, open and globular clusters, extragalactic star clusters;
		D11	Individual stars in external galaxies, resolved stellar populations;
		D12	Distance scale – stars.

A DDT Programme may have up to 26 runs. Since the space for the run description in Box 3 is limited to 10 lines, a new box containing the observing runs beyond this limit will be created at the end of the proposal form if needed.

**2. PERIOD KEYWORD.** Provide, in the second pair of curly braces, the period number. For DDT proposals this may be either 80 or 81.

**3. INSTRUMENT.** Provide the keyword of the instrument required for each observing run. The complete list of keywords of all instruments that are currently available is given in Table 3.

Table 3: Keywords of Available Instruments (DDT Programmes)

Telescope	Instrument keywords
UT1	FORS2, ISAAC, CRIRES
UT2	FORS1, UVES, FLAMES
UT3	VIMOS, VISIR, SpecialUT3
UT4	NACO, SINFONI
VLTI	MIDI, AMBER
NTT	EMMI, SOFI, SUSI2, SpecialNTT
3.6	EFOSC2, HARPS, Special3.6
2.2	WFI, FEROS
APEX	APEX-2A, FLASH, LABOCA

Provide, in the third pair of curly braces, the instrument required for each observing run. For example,

```
\ObservingRun{A}{80}{FORS1}{-}{-}{-}{-}{-}
```

For visitors bringing their own Visitor Instrument, please use the corresponding “Special” keyword, i.e., “SpecialUT3” for an instrument to be installed at UT3, “Special3.6” for an instrument to be mounted on the 3.6, and “SpecialNTT” for the NTT. It is then compulsory to fill in the Visitor Instrument information page in Box 14 (see Sect. 3.18).

**4. REQUESTED TIME.** In order to allow for the scheduling of proposals, you must specify the amount of time that you are requesting. For DDT Programmes, only Service Mode is supported, and you should at this stage provide only the total amount of time in hours, followed by the letter **h** for hours. This should include also the time related to any special calibrations required in addition to the standard calibrations provided by ESO. Any more detailed information about possible particular scheduling features will be provided during Phase 2 Service Mode proposal preparation.

**5. MONTH PREFERENCE.** Provide the first three letters of the month (e.g. dec) which would be your first preference for scheduling (valid months are oct, nov, dec, jan, feb, mar, apr, may, jun, jul, aug, sep). If you do not have any month preference simply write “any” For example,

```
\ObservingRun{A}{80}{FORS2}{4h}{dec}{-}{-}{-}{-}
```

**6. MOON REQUIREMENT.** Provide the required phase of the moon, by using only one of the following three characters (see the Call for Proposals for the exact definition), namely:

- dark time for “d”
- grey time for “g”
- no restriction for “n”

For example,

```
\ObservingRun{A}{80}{FORS2}{4h}{dec}{d}{-}{-}{-}
```

**7. SEEING REQUIREMENT.** Provide the required maximum acceptable seeing value in arcseconds (FWHM) at the wavelength of observation (see the Call for Proposals for the exact definition). Your requirement must be one of the following values:

0.4, 0.6, 0.8, 1.0, 1.2, 1.4, n

For example,

```
\ObservingRun{A}{80}{FORS2}{4h}{dec}{d}{0.8}{}
```

**8. TRANSPARENCY REQUIREMENT.** Provide the transparency condition of the atmosphere required during your observations (see the Call for Proposals for the exact definition). Your requirement must be one of the following values:

photometric, a perfect night	for PHO
clear sky, although with some rare clouds	for CLR
thin cirrus, inducing absorption up to 0.2 mag	for THN

For example,

```
\ObservingRun{A}{80}{FORS2}{4h}{dec}{d}{0.8}{PHO}{}
```

**9. OBSERVING MODE.** Provide the requested observing mode: **s** = Service Mode (which is the only supported mode for DDT programmes). For example,

```
\ObservingRun{A}{80}{FORS2}{4h}{dec}{d}{0.8}{s}
```

### Alternative runs

For each requested run, you may specify one or several “alternative runs” for possible execution of the proposed observations with another instrument (in general mounted on another telescope). To this effect, add another line in Box 3, with in the first pair of curly braces, the letter identifying your primary run, followed by “**\alt**”. For example,

```
\ObservingRun{A}{80}{FORS1}{2h}{dec}{d}{0.8}{CLR}{s}
\ObservingRun{A/alt}{80}{VIMOS}{6h}{dec}{d}{0.8}{CLR}{s}
```

indicates that the observations of run A could be obtained through allocation either of 2 hours in Service Mode with FORS-1 (primary choice) or of 6 hours in Service Mode with VIMOS (secondary choice). You may specify several alternative runs for each primary run (e.g., in the example above, FORS2 or EFOSC2 runs might plausibly be other suitable alternatives).

### Multiple runs

If more than one run is needed for execution of the programme, then fill as many lines as needed. For example,

```
\ObservingRun{A}{80}{FORS2}{2h}{dec}{d}{0.8}{PHO}{s}
\ObservingRun{A/alt}{80}{VIMOS}{2h}{dec}{d}{0.8}{PHO}{s}
\ObservingRun{B}{80}{NACO}{6h}{jan}{n}{0.6}{CLR}{s}
```

APEX users should note that all observations for a given APEX instrument must be included in a **single run**. The proposal receiver will reject any proposal with more than one run per APEX instrument.

### Proprietary time

The default data proprietary time is 12 months. Nevertheless, you can ask to reduce it for your data by using the macro `\ProprietaryTime{time}`. The *time* is expressed in months, and only the following values can be entered: 0, 1, 2, 6, 12. For example,

```
\ProprietaryTime{6}
```

Please note that this macro does not produce any printable output at compilation, but the information that it contains will be duly stored in ESO’s database when the proposal is submitted.

### 3.4 Past, Present, and Future of this Programme: BOX 4

In order to allow for the evaluation of the proposal within the broader context of the project of which it is part, taking into account the observations already obtained in the past and the data still to be acquired in the future, indicate in Box 4:

- `\AwardedNights`: the amount of time (in nights or hours) allocated to this project in previous periods, together with the programme number (e.g., 078.B-1234), and the telescope on which this time was allocated;
- `\FutureNights`: the amount of time (in nights or hours) still necessary, in the future, after this proposal, to complete the programme, if any, and the corresponding telescope(s).

For example,

```
\AwardedNights{UT1}{4n in 078.B-1234}  
\FutureNights{UT3/NTT}{2n/20h}
```

### 3.5 Special Remarks: BOX 5

Take advantage of this box to provide any special remark (up to three lines). For example,

```
\SpecialRemarks{This programme is a resubmission, in updated form, of  
proposal 078.B-1234, which had been granted 2n in VM  
with UT2+UVES and was entirely clouded out.}
```

### 3.6 Name and Affiliations of PI and CoI(s): BOX 6

The macro `\PI` must be used to identify the Principal Investigator (PI) of the proposals. With the introduction of the User Portal the PI should just fill in their ESO User Portal username here. On uploading the proposal the receiver will automatically convert the PI's username to their name and affiliation.

```
\PI{username}
```

replace “username” with the actual username of the PI.

You should use the macro `\CoI` to specify also, for all the Co-Investigators (CoIs) of this proposal, their initial(s), last name, present institution, and the country or organization code of the latter. The only country or organisation codes that may be used are listed in Table 4. For those countries or organisations not explicitly appearing in this table, the code “OTHER” must be used.

You should have one instance of the macro `\CoI` for each CoI of the proposal. The number of instances is unlimited. However, due to the limited available space, only the names of the first 20 CoIs will appear in the printed version of the proposal form, followed by an ellipsis (...) if the actual number of CoI is greater than 20. The whole list of CoIs is nonetheless stored in the ESO database, where it can be accessed for any purpose requiring it. An example of input of a CoI list follows:

```
\CoI{H.}{Cerny}{Leiden}{NL}  
\CoI{S.}{Bailer-Brown}{Moscow}{OTHER}  
\CoI{K.}{Giorgi}{STScI}{USA}  
\CoI{S.}{Lichtman}{ESO}{ESO}
```

### 3.7 Link to student PhD Thesis: BOX 7

If this programme is part of a PhD thesis work, please uncomment the line containing the macro `\Thesis{}{}`, give the name of the student, and indicate also the status of his/her thesis work by: s = starting, m = mid-course, n = near completion. (The status will not appear in the printed version of the form, but it will be stored in ESO's database.) For example,

```
\Thesis{StudentName. Data important for PhD thesis and student  
will lead the project}{m}
```



Table 4: Country/organisation codes to be used in ESOFORM

Code	Country or organisation
AUS	Australia
B	Belgium
CH	Switzerland
D	Germany
DK	Denmark
ESA	European Space Agency
ESO	European Southern Observatory
F	France
I	Italy
NL	The Netherlands
OTHER	Other Countries
P	Portugal
RCH	Republic of Chile
S	Sweden
UK	United Kingdom
USA	United States of America

### 3.8 Description of the Proposed Programme: BOX 8

The next two pages contain the description of the proposed programme. This description is restricted to TWO pages and composed of five different sections, activated by five different macros.

A) Scientific rationale: this section should describe the scientific background of the project, with pertinent references; any previous work in the field plus the justification for the present proposal should be included. The content of this section should be placed between the curly braces of the macro `\ScientificRationale{}`.

B) Immediate objective of the proposal: this section should state what is actually going to be observed and what will be extracted from the observations, so that the feasibility becomes clear. The content of this section should be placed between the curly braces of the macro `\ImmediateObjective{}`.

C) This section should provide a justification for the use of the selected telescope (e.g., VLT, NTT, etc...) with respect to other available alternatives. The content of this section should be placed between the curly braces of the macro `\TelescopeJustification{}`.

D) This section should provide a justification for usage of the DDT channel for submission of the proposal (as opposed to submission through the regular OPC channel). The content of this section should be placed between the curly braces of the macro `\DDTJustification{}`.

E) This section should provide a brief explanation of the strategy for data reduction and analysis with a description of available hardware, software, and manpower. The content of this section should be placed between the curly braces of the macro: `\Strategy{}`

The references should preferably use the simplified abbreviations used in *Astronomy & Astrophysics*.

**THE RELATIVE LENGTHS OF EACH OF THESE FIVE SECTIONS ARE VARIABLE, BUT THEIR SUM IS RESTRICTED TO TWO PAGES.** Any text not fitting within the allocated 2 pages will be ignored. It is the responsibility of the proposers to check that their programme description does not exceed the maximum acceptable length. To this effect, proposers should carry out a careful visual inspection of a print-out of their proposal prior to submitting it. Also, when the proposal is compiled with pdfL<sup>A</sup>T<sub>E</sub>X, the length of the text is checked, and a warning message is issued if it is greater than 2 pages. While this warning may easily be overlooked in the real-time terminal window from which pdfL<sup>A</sup>T<sub>E</sub>X is run because of the continued scrolling resulting from other output, it is recorded in the logfile generated by pdfL<sup>A</sup>T<sub>E</sub>X. Users are strongly encouraged to check this log file.

### 3.9 Figures: BOX 8 (cont'd)

The two pages of the description of the proposed programme can be followed by up to TWO pages of figures. This material can be included using the macros `\MakePicture{}` and `\MakeCaption{}`.

**NOTE THAT POSTSCRIPT PICTURES ARE NOT ACCEPTED.** Since the proposals are compiled using the pdfL<sup>A</sup>T<sub>E</sub>X package, only JPEG and PDF file formats are accepted. Attachments in other formats should be converted into one of the accepted formats using appropriate tools (such as ps2pdf, convert, or gimp). In order to reduce the size of the attachments, **we strongly suggest the use of the PDF format for simple plots and graphs, and JPEG for large figures (such as astronomical images).**

The figure macro `\MakePicture{}` has two arguments: the name of the file of the picture, and a list of optional keywords specifying formatting parameters of the image (as defined in the `graphicx` package). For example:

```
\MakePicture{MyPic1.pdf}{width=15cm,height=8.0cm,angle=90}
\MakePicture{MyPic2.jpg}{width=12cm}
```

The filename should have a .jpg or .jpeg extension for JPEG files, and a .pdf extension for PDF files; other extensions are not accepted.

The caption macro `\MakeCaption{}` takes one single argument, which should contain any L<sup>A</sup>T<sub>E</sub>X caption. For example:

```
\MakeCaption{Whatever caption using LaTeX.}
```

These attachments will be printed on up to two pages immediately following the scientific description. You must check the pdf output generated by pdfL<sup>A</sup>T<sub>E</sub>X before submitting your proposal to make sure that the attachments are properly included. In particular, **colour figures should still be readable if printed in black and white**. Also, it is **your responsibility** to check that your attachments **fit within the allocated 2 pages**. Please note that when the proposal is compiled with pdfL<sup>A</sup>T<sub>E</sub>X, the space required by the attachments is checked, and a warning message is issued if it exceeds 2 pages. While this warning may easily be overlooked in the real-time terminal window from which L<sup>A</sup>T<sub>E</sub>X is run because of the continued scrolling resulting from other output, it is recorded in the logfile generated by LaTeX. You are strongly encouraged to check this log file.

### 3.10 Justification of Requested Time: BOX 9

In this box, you should provide a careful justification of the requested lunar phase and of the requested amount of time. To this effect, you should use the ESO Exposure Time Calculators whenever possible; these exist for all Paranal and La Silla instruments and are available at <http://www.eso.org/observing/etc>. Links to exposure time calculators for APEX instrumentation can be found in Sections 7.1 and 7.2 in the Call for Proposals.

For each telescope and instrument to be used, please specify the version of the ESO Exposure Time Calculator that you have used. Do **not** include any correction for unexpected meteorological conditions. The text should be typed as arguments of the following two macros:

```
\WhyLunarPhase{}
\WhyNights{}
```

For Service Mode runs, the calibrations foreseen in the instrument calibration plans are absorbed by the Observatory; they do not need to be included in the amount of requested time. If calibrations are required that are not included in the respective calibration plan, you must include the additional amount of time that is needed to obtain them in the total amount of time requested.

The macro `\Calibrations` must be used to specify the calibration requirements of your proposal. It takes two arguments. The first one should be set to **standard** if the calibrations contemplated in the calibration plan are sufficient. In this case, no input is required for the second argument:

```
\Calibrations{standard}{}
```

If, on the other hand, you need additional calibrations, the first argument must be set to **special**, and a brief description of non-standard calibrations that you need must be given as second argument. For example,

```
\Calibrations{special}{Adopt a special calibration}
```

Note that non-standard daytime calibrations must be specified here, but contrary to additional nighttime calibrations, the corresponding time need not be included in the total amount of requested time.

### 3.11 Last Use of ESO Facilities: BOX 10

The macro `\LastObservationRemark` must be used to provide a brief report on the use of the ESO facilities during the last 2 years. You should specify the programme identification numbers, and describe the status of the data obtained, and the scientific output generated.

### 3.12 Applicant's Publications: BOX 11

The applicants should provide, with the macro `\Publications{}`, a list of their publications related to the subject of the current proposal and published during the past two years. The A&A simplified abbreviations for references should be used. The individual references should be separated with a small amount of vertical space, to be created with the standard L<sup>A</sup>T<sub>E</sub>X command `\smallskip`. For example:

```
\Publications{
Name1 A., Name2 B., 2001, ApJ, 518, 567: Title of article1
\smallskip\\
Name3 A., Name4 B., 2002, A\&A, 388, 17: Title of article2
\smallskip\\
Name5 A. et al., 2002, AJ, 118, 1567: Title of article3
}
```

### 3.13 List of Targets: BOX 12

Provide the complete list of targets to be observed in this programme, by using the macro \Target{}{}{}{}{}{}{}{} with the following nine parameters: Run Identifier (you may use the same target/field in more than one run), Target/Field name, Right Ascension (hh mm ss.f, or hh mm.f, or hh.f) and Declination (dd mm ss, or dd mm.f, or dd.f) for the J2000 equinox, requested time on target (in hours with overheads and calibration included), magnitude, angular diameter, additional information (see below), and reference star identifier (see below) for each target field. Please use the format {00 00 00} in case of unknown coordinates. There can be as many occurrences of the macro \Target as required to accommodate all targets of all runs of the programme. Long lists of targets will continue on the last page(s) of the proposal form.

The additional information field (8th argument of the `\Target` macro) may in general be used to provide any relevant piece of information about the target that does not pertain to any other argument of the macro (e.g. the period of a variable star). However, for APEX targets, usage of this field is **mandatory** to indicate the requested Precipitable Water Vapour (PWV) and the acceptable range of Local Sidereal Time (LST) for the considered observation. The format should be similar to the one shown in the following example:

```
\Target{A}{HD 104237}{12 00 05.6}{-78 11 33}{1}{}{}{PWV<0.7mm;LST=9h00-15h00}{}{}
```

A reference source identifier must be provided for all natural guide stars (NGS), in the case of NGS observations with NACO, SINFONI and CRİRES, and all tip-tilt stars (TTS), in the case of all laser guide star (LGS) observations with NACO and SINFONI. For observations with the noAO modes of SINFONI and CRİRES, you do not need to provide this information. **The reference source designation has to be the exact identifier of the selected star either from the Guide Star Catalog 2 (GSC2) or the 2MASS point source catalogue.** Note that GSC2 stars identifiers should NOT be preceded by GSC2, but must start with either N or S. In case the reference source is not included in either catalogue, for instance because it is a supernova or a solar system object, “alt” should be entered as reference source identifier, and additional information can be provided in the \TargetNotes macro. Rules for reference star designation can be found for GSC2 at: <http://vizier.u-strasbg.fr/viz-bin/VizieR-n?-source=METAnot&catid=1271&notid=1&-out=text>.

Examples of valid and invalid GSC2 identifiers are given below:

N01230121	good
S33333331	good
n01230121	bad
N012301201	bad
S01230141	bad
S3333333000001	bad
S01201201234567	bad

For 2MASS, the rules for reference star designation are available at:  
<http://www.ipac.caltech.edu/2mass/releases/allsky/doc/sec2.2a.html>.

Here are some examples of correct and incorrect identifiers:

2MASS J01234567+7801020	good
2MASS J00000000+7801020L	good
2MASS J01234567+9000000	good
2MASS J01234567+9000000W	good
2MASX J01234567+7801020	bad
2MASS J97234567+7801020	bad

Thus the following examples illustrate the correct usage of the `\Target` macro when a reference star must be specified:

```
\Target{B}{NGC 105}{22 55 00}{-47 50 30}{9.0}{}{}{S33333331}
\Target{C}{NGC 106}{00 24 43}{-05 09 00}{2.0}{}{}{2MASS J01234567+7801020}
```

The macro `\TargetNotes{}` should be used to include any comments that apply to several or all targets (or to specify reference stars that are not found in the GSC2 or 2MASS catalogues).

```
\TargetNotes{This is a note about the targets.}
```

### 3.14 ESO Archive: BOX 12b

You should use the `\RequestedDataRemark` macro to indicate if the data requested in the proposal are in the ESO Archive (<http://archive.eso.org>), and if so, to explain the need for new data.

### 3.15 Scheduling Requirements: BOX 13

If your proposal involves any of the following:

- observations to be executed on specific dates (e.g., for simultaneity with observations at other facilities);
- observations to be executed at pre-defined time intervals (e.g., at different epochs so as to achieve phase coverage of a periodically variable target);

you **must** uncomment the macro `\HasTimingConstraints` but please leave the brackets empty.

Please note that the macro `\HasTimingConstraints` should be **commented out** in the following cases:

- for scheduling constraints resulting only from the genuine visibility window of the target sources (defined by their location in the sky) or from the phases of the Moon;
- for Target of Opportunity observations.

**1. SPECIFIC DATE(S) FOR TIME CRITICAL OBSERVATIONS.** If you have requested 2 nights in Box 3, e.g.:

```
\ObservingRun{A}{80}{FORS1}{2h}{nov}{d}{0.8}{s}{}{}
```

and if for some reason (e.g., specific phase of a variable object or parallel observations with already scheduled HST observations, etc.) you need these two nights scheduled between some specific dates, then use the macro `\TimeCritical{ }{ }{ }` in the following way:

```
\TimeCritical{A}{12-nov-07}{14-nov-07}{parallel observation with HST}
```

Note that the indicated dates correspond to 12:00 noon Local Time at the Observatory location (i.e., in Chile). In other words, the first date refers to the start of the first night of the acceptable interval, and the second to the end of the last night. Please make sure to duly convert event times from Universal Time to Local Time.

**2. UNSUITABLE PERIOD(S) OF TIME.** If you have requested two nights in Box 3 and would like them to be scheduled to avoid some unsuitable periods of time, for some reason, then use the macro `\UnsuitableTimes{ }{ }{ }` in the following way:

`\UnsuitableTimes{A}{15-jan-08}{18-jan-08}{International Conference}`

Times are understood according to the same convention as for the macro `TimeCritical` (see above).

**3. LINK FOR COORDINATED OBSERVATIONS.** If you have requested three different runs in Box 3, e.g.:

```
\ObservingRun{A}{80}{FORS2}{2h}{nov}{d}{0.8}{s}{}
\ObservingRun{B}{80}{FORS1}{3h}{nov}{d}{0.8}{s}{}
\ObservingRun{C}{80}{UVES}{2h}{nov}{d}{0.8}{s}{}

```

and would like some of them to be simultaneous and some later than others (by any delay, zero indicating immediately after), independently of the exact period of scheduling, then use `simultaneous`, `after` and the macro `\Link{}{}{}{}` in the following way:

```
\Link{B}{after}{A}{10}
\Link{B}{after}{A}{}
\Link{B}{simultaneous}{C}{}

```

### 3.16 Instrument configuration: BOX 14

The template proposal (`templateDDT.tex`) contains the full list of configurations for all available instruments at all available ESO telescopes (Paranal, La Silla and Chajnantor). In order to provide general information about the setup of the ESO instrument(s) you plan to use, please uncomment only the lines related to the instrument modes and configurations needed for the acquisition of your desired observations. For some lines related, e.g., to special filters or central wavelength, please add the required information where appropriate (between the already existing curly braces).

Note that you **must** put the run ID within the first pair of curly braces of the relevant lines. **Do not** specify any instrument configuration for alternative runs (see Box 3). Note that all parameters are **mandatory** for the `\INSconfig` macro (do not use empty fields).

### 3.17 Interferometry page

If your proposal includes VLTI runs, you **MUST** uncomment and fill in the arguments of the macro `\VLITTarget` with run ID, target name, visual magnitude, magnitude at wavelength of observation, wavelength of observation (in microns), size at wavelength of observation (in mas), baseline (see the following website for available configurations: <http://www.eso.org/paranal/insnews/vlti-overview.html>), visibility for the specified configuration (at preferred hour angle or at hour angle 0), correlated magnitude, and time on target (ToT) in hours. For example,

```
\VLITTarget{A}{NGC 106}{-0.7}{-3.5}{10.6}{40}{UT2-UT3-47m}{0.84}{-2.5}{6}
\VLITTarget{B}{NGC 107}{-0.7}{-3.5}{2.1}{40}{UT1-UT2-UT3}{0.84/1.0/0.1}{1./0.5/2.}{6}

```

Note that, for AMBER, you should specify the three visibilities corresponding to the various baselines as three values separated by a slash (/); up to two of the three values can be replaced by a star (\*). Similarly, the magnitudes for the various baselines are also specified as three values separated by slash.

You can use the macro `\VLITTargetNotes` to insert comments about some or all of your VLTI targets. You should take advantage of this macro to indicate suitable alternative baselines for your observations.

### 3.18 The Visitor Instrument Page

The following commands are only needed for proposals involving a Visitor Instrument, in which case they are also **mandatory**. You should uncomment them and provide the required information between the different pairs of curly braces.

```
%\Desc{}    % Description of the instrument and its operation
%\Comm{}    % On which telescope(s) has instrument been commissioned/used
%\WV{}      % Total weight and value of equipment to be shipped
%\Wfocus{} % Weight at the focus (including ancillary equipment)

```

```

%\Interf{} % Compatibility of attachment interface with required focus
%\Focal{}  % Back focal distance value
%\Acqu{}   % Acquisition, focusing, and guiding procedure
%\Softw{}  % Compatibility with ESO software standards (data handling)
%\Suppl    % Estimate of services expected from ESO (in person days)

```

## 4 SUBMISSION OF THE APPLICATION

Proposals must be prepared as pdf $\LaTeX$  source files, making use of the **latest ESOFORM** package, corresponding to the current ESO Period. Proposals received in any other format, or with modified ESOFORM macros, will be automatically rejected by the automated proposal handling system.

When the  $\LaTeX$  source file of your application is complete, **please process it with pdf $\LaTeX$**  so as to identify any possible  $\LaTeX$  format errors. In particular, we **strongly** recommend that you

- review the log file generated by  $\LaTeX$  so as to check for the presence of warning messages issued by the ESOFORM macros. Such messages report, among others, instances in which a text field is too long, so that your input is truncated in the pdf file that is generated, and part of the information that you submit will be lost;
- carefully inspect a printed copy of the output to make sure that all parts of the application are duly completed, and that their formatting is appropriate.

**Please note** that while a significant number of checks are performed by the ESOFORM package when running pdf $\LaTeX$ , a successful outcome of this process **does not guarantee** that a proposal is fully compliant. Indeed, many other checks (about half of the total number) can only be performed by the proposal reception system at the time when the proposal is submitted.

In particular, please be aware that as of Period 80, the proposal reception system checks for **the presence of text outside the argument fields of the ESOFORM macros** in the  $\LaTeX$  source of the proposal, and rejects proposals in which such text is found. Although no such check is implemented at the stage of processing of the proposal with pdf $\LaTeX$ , its presence can be identified through inspection of the printed output. Any text (or extra space) appearing above the ESO logo on top of the first page of the latter results from the occurrence of input outside the ESOFORM macros in the  $\LaTeX$  source. This input **must be commented out or relocated within the relevant macro** before the proposal is submitted.

Please note that the new ESO User Portal must be used for submitting proposals:

<http://www.eso.org/UserPortal>

You should log in and then select the option to “Submit a proposal” from the menu on the left hand side. You can then upload the  $\LaTeX$  file of your proposal, following the instructions on your browser.

A number of checks are executed at the various steps of the submission process; if requested to do so, please keep reloading the page with your browser until you see the results of these checks. Should a problem be detected, it will be clearly reported by the system: fix it in your proposal and make a new attempt at submitting it. Otherwise, you can proceed with the upload of the attachments. Further tests are done on these files (in particular, regarding their formats and their filenames). If they are successfully completed, you will be requested to finalise the submission by clicking on the corresponding button. **It is essential that you execute this final step:** your proposal will not be submitted until this is done, even though you have uploaded all the necessary files! Upon submission of a correctly completed proposal, the ESO proposal validation software will return an identifier assigned to the valid proposal. This identifier, and the acknowledgment page in which it appears, represent the official confirmation that the proposal successfully entered the proposal handling system. We recommend that you take note of the identifier; you may also want to print the acknowledgment page for your records. In addition, an email confirmation is sent to the submitter and to the PI of the proposal.

**Note that WASP can be used just to verify your proposal without actually submitting it. In particular, you should take advantage of this by verifying a “skeleton” version of your proposal (containing only the technical details of your programme) before finalising the free text.**

## Submission Problems

The proposal submission acknowledgment page normally appears within seconds of completion of a submission. However, the acknowledgment process may take several minutes. As mentioned above, the acknowledgment Web page providing the identifier of your proposal is the official confirmation of its successful submission. The subsequent email notification is only sent to you as a secondary confirmation, and delay in its delivery should not represent a concern. However, if you have not received it within 24 hours of your submission, please report this anomaly to [esoform@eso.org](mailto:esoform@eso.org).

### IMPORTANT NOTICE

Electronic proposal submission does not allow applicants to sign their proposals. Therefore ESO assumes that PI's take full responsibility for the contents of the proposal, in particular in regard to the names of co-investigators and the agreement to act according to the instructions for visiting astronomers, should observing time be granted.