

HerschelFORM PDF_{La}T_EX PACKAGE
USERS' MANUAL

Herschel Space Observatory
Open Time Key Programme Proposals

Version 1.1

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DEADLINE FOR PROPOSAL SUBMISSION IS:
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Table 1: Astronomical L^AT_EX Symbols

<code>\micron</code>	μm	<code>90\deg</code>	90°	
<code>\jkh</code>	JHK	<code>16\sqdeg</code>	16deg^2	
<code>\jh</code>	$J-H$	<code>28\arcmin</code>	$28'$	
<code>\hk</code>	$H-K$	<code>11\arcsec</code>	$11''$	
<code>\jk</code>	$J-K$	<code>5\fd4</code>	$5^{\text{d}}4$	
<code>\sq</code>	\square	<code>8\fh2</code>	$8^{\text{h}}2$	
<code>\mv</code>	m_V	<code>2\fm56</code>	$2^{\text{m}}56$	
<code>\Mv</code>	M_V	<code>10\fs08</code>	$10^{\text{s}}08$	
<code>\onehalf</code>	$\frac{1}{2}$	<code>23\fdg12</code>	$23^\circ12$	
<code>\onethird</code>	$\frac{1}{3}$	<code>3\farcm6</code>	$3'6$	
<code>\twothirds</code>	$\frac{2}{3}$	<code>0\farcs27</code>	$0'27$	
<code>\threequarters</code>	$\frac{3}{4}$	<code>\slantfrac{{22}}{{7}}</code>	$\frac{22}{7}$	(braces unless one character)
<code>\onequarter</code>	$\frac{1}{4}$	<code>\squig\$</code>	\sim	(math mode only)
<code>25\kms</code>	25 km s^{-1}	<code>\lesssim\$</code>	\lesssim	(math mode only)
<code>\peryr</code>	yr^{-1}	<code>\gtrsim\$</code>	\gtrsim	(math mode only)
<code>M\subsun</code>	M_\odot	<code>\la\$</code>	\lesssim	(math mode only)
<code>\sun</code>	\odot	<code>\ga\$</code>	\gtrsim	(math mode only)
<code>\earth</code>	\oplus	<code>\nodata</code>	\dots	(tables only)

1 Getting started

1.1 Introduction

The HerschelFORM pdfL^AT_EX package has been created to provide a standard mandatory template for Herschel Open Time Key Programme proposers.

The manual describes the use of the HerschelFORM package, which is composed of the macros that are defined in the HerschelFORM class and style files and the `templatelarge.tex` template file. The macros allow the computer controlled typesetting of applications for observing time with the Herschel Space Observatory. If you are already familiar with T_EX or L^AT_EX, you will probably have no difficulty using the macros provided. You should follow the instructions given below and keep in mind that all of your input must conform to the standard L^AT_EX rules.

The HerschelFORM pdfL^AT_EX package has been built by adapting the ESO ESOForm package¹. It has been prepared with the following version of pdfL^AT_EX: pdfT_EX, Version 3.141592 (Web2C 7.5.5). If you encounter any serious pdfT_EX or pdfL^AT_EX problem, please contact Helpdesk at <http://herschel.esac.esa.int/esupport/>, describing the problem and indicating which version of pdfL^AT_EX you are using. For ease of use, we have adopted (and already included in the `herschelformlarge.cls` class file) a number of L^AT_EX definitions of commonly used astronomical symbols (the most relevant are listed in Table 1).

For every call, the application template will be updated according to the nature and characteristics of the call. *Please note that **only** proposals prepared using the **latest** version of HerschelFORM will be valid and accepted by the Herschel Space Observatory.*

1.2 How to Obtain the new HerschelFORM Proposal Package

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

http://herschel.esac.esa.int/ao_kp_tools.shtml

¹This Users' Manual is maintained by the Herschel Science Centre Community Support Team. The Herschel Space Observatory HerschelFORM Users' Manual and the whole HerschelFORM Package are adapted, with permission, from the ESO ESOFORM manual and the ESOFORM package, which is maintained by the ESO Visiting Astronomers Department (VISAS), while the background software for ESOFORM was provided by the ESO User Support System (USS) Department.

1.3 Description of the Content of the HerschelFORM Proposal Package

The HerschelFORM package consists of:

- A L^AT_EX class file (`herschelformlarge.cls`) that, together with the style files `common2e.sty` and `config.sty`, defines all the macros required to generate the application form for Key Programmes;
- The template proposal (`templatelarge.tex`), which the users may edit directly in order to create a new proposal;
- this Users' Manual (`usersmanual.tex`), which contains all the information required to fill the templates, as well as instructions on the electronic submission of proposals (via the HSpot proposal submission interface);
- a short README file.

You can view your proposal or the blank template file at any point by compiling the modified template and opening the PDF file that is generated. To compile it, simply type:

```
pdflatex myproposal.tex
```

Where `myproposal.tex` is the name that you have given to the file.

The file `myproposal.pdf` will be generated. Open this with any program that will read PDF format.

1.4 Getting help

Should you need assistance from the Herschel Science Centre (HSC) to prepare your proposal, please contact Helpdesk at the address <http://herschel.esac.esa.int/esupport/> for questions related to the HerschelFORM package as well as for more general questions about instrument performance, Observatory policies, etc. Note that this is a web-only interface with no e-mail question submission.

2 HOW TO FILL IN THE KEY PROGRAMME OPEN TIME (KP OT) TEMPLATE

2.1 General warnings and guidelines

For OT KP proposal generation and submission it is mandatory to use the Herschel Science Centre provided HerschelFORM pdfL^AT_EXtemplate and associated package. Proposals must conform strictly to the standard format. Proposals that do not conform will be rejected without explanation.

You should fill in the template file (`templatelarge.tex`) with your favourite editor. The easiest way to write a proposal is to modify the file `templatelarge.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 HerschelFORM macros**.

The template format tolerates the use of L^AT_EX commands such as `item` within the `itemize` environment, but may in some cases give unsatisfactory output. This is a feature of L^AT_EX, not a bug in the HerschelFORM package. In particular, to control the line length and ensure that they do not run off the edge of the page, lines in the `itemize` environment and similar environments *can* be cut by hand in the editor to ensure that L^AT_EX respects the desired line length, but a more reliable solution is to use the `itemize` environment as described below in Section 2.2.1. However, as detailed below, some L^AT_EX commands and environments such as `begintable` and `beginfigure` do not work within the HerschelFORM pdfL^AT_EXtemplate and associated package; again, these are features, not bugs.

Please note that **it is the responsibility of the applicants to stay within the box and page limits** and to eliminate potential overfill/overwrite problems. Proposers should be as concise as possible, but must remember that the requirements of a space observatory that will carry out observations automatically require much greater care with the definition of the details of the observations than those made under direct, real time astronomer control in a ground-based observatory.

Any text not fitting within the allocated pages will be ignored by the pdfL^AT_EX compiler and will not appear in your PDF file. It is the responsibility of the proposers to check that their programme description does not exceed the maximum acceptable length and is thus cut-off in compilation. To this effect, proposers should carry out a careful visual inspection of a print-out of their proposal prior to submitting it. Please note that when the

proposal is compiled with pdfL^AT_EX, the length of the text is checked, and a warning message is issued if the page limit for any section is exceeded, but compilation is NOT interrupted. These warnings may easily be overlooked in the real-time terminal window from which pdfL^AT_EX is run because of the continued scrolling resulting from other output, but it is recorded in the logfile generated by L^AT_EX. Users are thus strongly encouraged to check this log file, or to scroll the screen back to check for warning messages .

The P.I. *must* check the generated pdf file carefully, before submission, to ensure that all sections have been correctly filled in.

2.2 Description of the Proposed Programme: BOX 1 - Maximum 6 pages total

This is the first of the six sections that comprise your proposal description and scientific justification. The first four of these six sections are all subject to a strict page limit. These first four sections are the scientific justification will sum a maximum of no more than 13 pages, with individual maxima of 6, 3, 2 and 2 respectively (please note that you are not permitted to use extra pages for one section because you saved on another). You should not modify the page limits or the font sizes in any way; HOTAC will reject any such modified proposals without explanation.

These sections are each activated by different macros.

Please check the Herschel Space Observatory Policies and Procedures document for further details of the required content for each section.

For this first section - the description of the proposed programme - you have a limit of a total of six pages, including figures, that must be distributed between the following three sub-sections:

`\ScientificGoals{}`

`\ExploitationPlan{}`

`\OtherFacilities{}`

Section 1.1) Scientific rationale: scientific background of the project, pertinent references; the need to have Herschel Space Observatory data for the present proposal; justification that the proposal meets the three top-level goals that have been defined for it to be considered a Key Programme. This section must include a brief summary of the data to be collected and the total observing time requested. The content of this section should be placed between the curly braces of the macro `\ScientificGoals{}`.

Section 1.2) A brief, clear description of how the consortium plans to exploit the data scientifically after the observations are made. This description should be as non-technical as possible so that it is clearly understandable even to non-experts in the proposed field. The content of this section should be placed between the curly braces of the macro `\ExploitationPlan{}`.

Section 1.3) An explanation of what other facilities (ground-based or satellite) will be combined with the requested Herschel Space Observatory observations. A description of whether these observations are already available, are being requested simultaneously, or will be requested in the future. Planned follow-up to Herschel Space Observatory observations should be detailed, as should the dependence of Herschel Space Observatory data reduction on the future availability of observations from other facilities.

Please justify here any potential duplications with already approved Herschel observations that you have identified with the Reserved Observation List (ROL) tool.

Please state if the current proposal is linked to any others that are currently being submitted. The content of this section should be placed between the curly braces of the macro `\OtherFacilities{}`.

2.2.1 References: BOX 1 (cont'd)

The references should be included within the 6 pages of description. They should be listed in alphabetical order, one per line and preferably use the simplified abbreviations used in *Astronomy & Astrophysics*. They should ideally be separated by the L^AT_EX command `\smallskip`. The template file contains an example of how to fill in this section so that space is saved between the lines and making the `itemize` environment give satisfactory output.

This section is not obligatory and only appears if it has content. The list of references should appear in the curly braces of `\References{}`.

2.2.2 Figures: BOX 1 (cont'd)

The pages of the description of the proposed programme can include the required number of figures provided that the total does not exceed six pages. This material can be included using the macros `\MakePicture{}` and `\MakeCaption{}`.

NOTE THAT POSTSCRIPT IMAGES ARE NOT ACCEPTED. Since the proposals are compiled using the pdf \LaTeX package, only JPEG and PDF file formats are accepted. Images 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 file, **we strongly suggest using the PDF format for simple plots and graphs, and JPEG for large figures (such as astronomical images).**

The figure macro `\MakePicture{}` must be used. It 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.

If you need to produce double figures with two (or more) images side-by-side across the page this must be done in the `tabular` environment. Various examples are given in the template file, for example:

```
\begin{center}
\begin{tabular}{ll}
\includegraphics{galaxy.pdf} & \includegraphics{galaxy.pdf} \\
\includegraphics{galaxy.pdf} & \includegraphics{galaxy.pdf} \\
\end{tabular}
\end{center}
```

This produces a 2×2 matrix of images. However, this method does not allow a caption to be defined; your caption must be written as text outside the `tabular` environment.

The caption macro `\MakeCaption{}` takes one single argument, which should contain any \LaTeX caption. For example:

```
\MakeCaption{Write whatever caption you need, using \LaTeX, unless you have defined a
matrix of figures as in the second example above, in which case this command will not work
and you should use the alternative method that is outlined above.}
```

These figures will be printed immediately following the scientific description. You must check the pdf output generated by pdf \LaTeX 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**.

It is **your responsibility** to check that your attachments **fit within the allocated pages**. Please note that when the proposal is compiled with pdf \LaTeX the space required by the attachments is checked.

2.2.3 Environments that do not work in pdf \LaTeX and their alternatives

The following environments *do not* work in pdf \LaTeX :

```
\begin{figure} \end{figure}
```

Instead you *must* use:

```
\includegraphics{}
```

And:

```
\begin{table} \end{table}
```

In this case you *must* use:

```
\begin{tabular} \end{tabular}
```

2.3 Technical Implementation: BOX 2 - Maximum 3 pages total

The main criterion in the award of Herschel Space Observatory time is “helium into science”; in this section you must demonstrate that you will generate efficiently the observations from which you produce science. All proposals receive a detailed technical assessment that is carefully considered by HOTAC. HOTAC may reject all or part of your proposal if the proposed technical implementation is not convincing.

There are four sections to fill in:

```
\ObsStrategy{}
\TimeRequirements{}
\TimeConstraints{}
\Robustness{}
```

Section 2.1) This section is to justify the technical aspects of your proposal: how you plan to make the observations, target selection and the AOTs selected for the observations. This information is critical to proposal assessment. HOTAC may request extra technical details, or may even reject completely, without warning, any project or sub-project completely if insufficient, unclear, or unconvincing technical information is given.

The content of this section should be placed between the curly braces of the macro `\ObsStrategy{}`.

Section 2.2) Here is where you must justify the total amount of observing time that you have requested. This calculation must be completely transparent and consistent with the time shown in HSpot.

The content of this section should be placed between the curly braces of the macro `\TimeRequirements{}`.

Section 2.3) A key part of the technical implementation is to justify any constraints on your observations, be they timing, chopper orientation, or the scan or the array orientation on the sky. Constraints usually make observations less efficient, particularly for scheduling, but may be essential to make the observations possible, or to obtain the science that is required. All constraints should be declared and justified.

The content of this section should be placed between the curly braces of the macro `\TimeConstraints{}`.

This information should be consistent with the constraints declared in the observation summary table defined in 3.

Users should state in this section of the proposal template if part (or all) of the programme is under ToO and which ones are the triggering conditions and required reaction times.

Section 2.4) Here you should give a contingency plan for dealing with large changes in instrument performance, particularly sensitivity. This may be either by increasing the integration time, by observing fewer sources (in which case you should indicate prioritisation) or, if necessary, by proposing an alternative AOT that is declared in an alternative observation summary table, e.g.:

In the observation summary list (Section 3) you declare:

```
\ObservingMode{HPoint}{63.5}{m}{t}{}{}{}{}{}
```

You may, in the alternative table, add a possible different way of doing these observations

```
\ObservingModeAlt{PSpecL}{38.6}{m}{t}{}{}{}{}{}
```

In this example the prime mode is a HIFI Single Point AOT, with a PACS Line Spectroscopy AOT suggested as a possible alternative. You should explain how this alternative plan is capable of resolving potential instrumental sensitivity conflicts, should they occur.

Note that in Phase 2 proposal entry you will only be permitted to make such changes in your AORs as have been mentioned and duly justified here, or have been suggested by technical review.

The content of this section should be placed between the curly braces of the macro `\Robustness{}`.

2.3.1 Including figures in your technical implementation plan

You may include figures if these are required to explain details of the technical implementation of your project, however, these must be included in your 3 page space allowance; no extra pages may be added to include figures.

To do this, two commands have been defined:

```
\MakeTechPicture{}
```

To place the figure within the Technical Implementation section, and:

```
\MakeTechCaption{}
```

To add the figure caption.

It is important to use this command rather than `\MakePicture{}` as this latter command will, by definition, place the figures in the “Description of the Proposed Programme section”.

2.4 Data processing plans and archival value: BOX 3 - Maximum 2 pages total

For Key Programmes this will consist of three individual sections. The length of the sections can be variable according to the project's needs, but the sum must be less than 2 pages. The aim of this section is to demonstrate that the consortium has the tools and the capability to deal with the large quantity of data that will be generated by their project and that the time dedicated to the programme will be converted into data of lasting value to the community.

The text should be entered as arguments of the following three macros:

```
\DataProcessing{}  
\ProductGen{}  
\ArchiveValue{}
```

Section 3.1) 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: `\DataProcessing{}`

Section 3.2) Here you should describe any special software that you plan to use in analysing your data other than the Herschel Space Observatory Pipeline. In the case that you *do* plan to use own software, this should be described in enough detail that the steps and processes involved are fully understandable.

In this section you should describe the software, the programming language(s) used, the algorithms used and the assumptions behind them and the documentation that will be supplied (note that it is obligatory to supply adequate documentation). It must be shown that the results generated from your own software can be reproduced and independently verified, if necessary.

Note that users are strongly encouraged to use HCSS-compatible software unless there is a good reason not to.

The content of this section should be placed between the curly braces of the macro: `\ProductGen{}`

Section 3.3) Here you should show that your programme fulfills the basic requirement of Key Programmes that the data produced should have lasting archival value. Note that this includes the possibilities and opportunities that your proposal offers to the wider community to use your data after the proprietary period has ended. You should describe the long-term benefits of your data as an archival resource and the use(s) that it may later have to other users. You should give some suggestions as to how the data products that are produced may mature and widen as the archive is subjected to more detailed analysis and to more sophisticated data processing and calibration.

The content of this section should be placed between the curly braces of the macro: `\ArchiveValue{}`

2.5 Management and outreach plan: BOX 4 - maximum 2 pages total

This comprises of two sections that should total no more than two pages.

The macro `\ManagementRemark` must be used to provide a brief report on how the consortium's work will be organised, what makes it suitable for a project of this kind, the particular talents and abilities that it brings to bear and the resources that the consortium has committed to the project.

The macro `\Outreach` should be used to describe how project results will be publicised and spread beyond the specialist Herschel community, especially to the general public.

2.6 List of consortium members, roles and relevant experience: BOX 5 - No page limit

The applicants should provide, with the macro `\Members{}{}`, a list of the consortium members along with their role and relevant information on their experience and qualifications that make them suitable for that role. Use one occurrence of `\Members{}{}` per consortium member.

As a guide, this information should take up no more than 5 lines per consortium member. The individual members should be separated with a small amount of vertical space, to be created, if necessary, with the standard L^AT_EX command `\smallskip`. For example:

```
\Members{Name1 Initial(s).} {[Affiliation,] Status (Professor, Post-doc, student, etc.),  
Role in consortium, Relevant qualifications for this role}
```

```
\smallskip
```


\Members{Name2 Initial(s).} {[Affiliation,] Status (Professor, Post-doc, student, etc.),
Role in consortium, Relevant qualifications for this role}

\smallskip

\Members{Name3 Initial(s).} {[Affiliation,] Status (Professor, Post-doc, student, etc.),
Role in consortium, Relevant qualifications for this role}

This section may be as long as is necessary, always respecting the requirement that it should be as concise as possible within the limitations of completeness.

3 Observation summary table

3.1 Information about the different Astronomical Observing Templates (AOTs) requested in your proposal

The final macro (\ObservingMode) allows the description of the different parameters characterising your observations. This breakdown is necessary to know the global demands for instruments and to be able to plan in advance to ensure the most efficient scheduling of programmes given that in most cases AOTs will have to be blocked together as full or pairs of Operational Days. This macro takes nine arguments, to be specified between nine pairs of curly braces {}, which are related to the parameters described below. The final three braces are left blank.

1. AOT ID. Each instrument offers different basic configurations, for example, PACS Photometer, SPIRE Spectrometer, HIFI Spectral Scan that are predefined. These are Astronomical Observing Templates (AOTs) that you personalise to form a single observation that adapts the AOT to the exact configuration that you require: an Astronomical Observing Request, or AOR. Your programme may involve several AOTs, which must usually be scheduled separately. Each AOT required by a proposal should be identified. Each additional parameter that is added in subsequent braces will characterise these observations further.

Provide the keyword of the instrument AOT that is required for each sub-set of observations. The list of keywords of AOTs is given in Table 2. You can find further information in each of the instrument users' manuals; these can be found at the url:

http://herschel.esac.esa.int/ao_kp-tools.shtml/

Table 2: Keywords of Available AOTs. This list will be fixed for all calls. The abbreviation is the default AOT identifier shown in HSpot.

Instrument AOT keywords	
PACS	PPhoto, PSpecL, PSpecR
SPIRE	SPhoto, SSPEC
HIFI	HPoint, HMap, HScan
Parallel	SPParallel

Provide, in the third pair of curly braces, the AOT to be used (e.g. for PACS Photometer, enter PPhoto; for SPIRE Spectrometer, enter SSPEC; for HIFI Mapping, enter HMap; etc.) For example,

\ObservingMode{HMap}{ }{ }{ }{ }{ }{ }{ }

A programme may use any or all of the 9 permitted Herschel AOTs.

Within any AOT there are various possible observing modes (Point Source, Small Map, Large Map, etc.) It is not necessary to sub-divide the AOTs in this table, even if you require more than one observing mode for a particular AOT.

2. REQUESTED TIME. For efficient observation planning it is essential that the breakdown of requested time per instrument is known, given that in the majority of cases each AOT will be blocked as full Observing Days (ODs).

Provide, in the second pair of curly braces, the total amount of time in hours, as reported by HSpot, which is required for the observations that you have requested in this particular observing mode.

For example,

```
\ObservingMode{HMap}{15.6}{ }{ }{ }{ }{ }
```

3. MOVING TARGETS. Please specify how many moving targets you have to be observed with this AOT. Put an **number** corresponding to the number of AORs for moving targets in the brace if you have moving targets. Otherwise leave blank.

For example,

```
\ObservingMode{HMap}{15.6}{4}{ }{ }{ }{ }{ }
```

4. TIMING CONSTRAINTS You **MUST** specify if you have any constrained observations in the requested AOT, as these will affect telescope scheduling. A time constrained observation is any observation that:

- (i) Is defined with a chopper avoidance angle
- (ii) Is defined with a map orientation constraint
- (iii) Is defined as fixed time, or with a timing window ("T" column ticked in HSpot AOR table)

Put a **number** in this brace corresponding to the number of constrained observations defined if there is at least one time constrained AOR, otherwise leave blank.

For example,

```
\ObservingMode{HMap}{15.6}{4}{5}{ }{ }{ }{ }
```

You should declare a time constrained observation if it is planned that the observation will be time constrained, even if the AOR that is submitted with this proposal does not yet include the constraint. The need for constrained observations must be clearly justified in the technical justification.

5. GROUPINGS AND CONCATENATIONS You **MUST** specify if you have grouped or concatenated observations that will affect telescope scheduling in the requested AOT ("G" column ticked in HSpot AOR table).

If you have any grouped or concatenated observations you should put a **number** within the brace that corresponds to the number of concatenations that you have defined, otherwise leave this field blank.

For example,

```
\ObservingMode{PPhoto}{10.9}{ }{ }{6}{ }{ }{ }
```

6. FOLLOW-UP You **MUST** specify if you have sequenced observations that will affect telescope scheduling in the requested observing mode ("F" column ticked in HSpot AOR table).

A sequenced observation is any observation in which the AORs must be carried out in a certain order, or with a defined spacing in time.

Put a **number** in this brace defining how many follow-ups you have if there is at least one sequencing of AORs, otherwise leave blank. For example,

```
\ObservingMode{HMap}{15.6}{ }{ }{ }{1}{ }{ }
```

You should declare sequenced observations if it is planned that the observation will be sequenced, even if the AOR that is submitted with this proposal does not yet include the sequencing. The need for sequenced observations must be clearly justified in the technical justification.

The use of multiple AOTs in a proposal

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

```

\ObservingMode{HPoint}{63.5}{5}{2}{-}{-}{-}{-}{-}{-}
\ObservingMode{PSpecL}{38.6}{1}{-}{-}{10}{-}{-}{-}{-}
\ObservingMode{SSpec}{83.4}{-}{-}{5}{-}{-}{-}{-}{-}
\ObservingMode{HScan}{17.1}{-}{-}{-}{-}{-}{-}{-}{-}
\ObservingMode{PSpecR}{22.4}{-}{4}{-}{20}{-}{-}{-}{-}

```

3.2 Target notes

You have the opportunity to add some notes to the observation summary list by using the macro `\TargetNotes`. Here you may add extra details of the observations (observing modes, filters to be used, Local Oscillator Frequency or Frequencies, etc.): anything that you feel is necessary to give HOTAC a full and complete picture of your observing programme.

Alternative AOT(s)

For each requested AOT, you may exceptionally specify in a second table an “alternative mode” for possible execution of the proposed observations with another instrument if resolution, sensitivity, or other currently unknown instrument performance factors may affect the feasibility of your observations. This may form part of your contingency plans for carrying out the observations in the case that they are not possible with the preferred observing mode.

This table should be defined in exactly the same way as your main summary table, filling in the following line with the relevant information.

\ObservingModeAlt{}{}{}{}{}{}{}{}{}

The possible alternative AOTs should form part of your contingency plans for observations defined in Section 2.3. For example,

```
\ObservingModeAlt{PSpecL}{110.2}{5}{2}{ }{ }{ }{ }
```

indicates that the previously defined HPoint observations could be obtained through allocation either of 63.5 hours with the HIFI Point AOT (primary choice) or of 110.2 hours with PACS in Line Spectroscopy AOT (secondary choice). You may specify an alternative AOT for each primary AOT if more than one option exists; the Herschel Science Centre staff will be glad to advise on which of the proposed AOTs is best during proposal preparation, or during their technical assessment of the proposal.

Here, again, you have the opportunity to add some notes to the observation summary list by using the macro `\AltTargetNotes`. You should use this to make clear the circumstances in which a previously defined AOT might be changed to this one.

4 SUBMISSION OF THE APPLICATION

Once you have prepared your proposal you must submit it formally

Proposals must be prepared as L^AT_EX source files, making use of the **HerschelFORM** pdfL^AT_EX package. Proposals received in any other format, or with modified HerschelFORM macros, will be rejected.

When the L^AT_EX source file of your application is complete, **please process it with pdfL^AT_EX** so as to identify any possible L^AT_EX format errors. In particular, we **strongly** recommend that you

- review the log file generated by L^AT_EX so as to check for the presence of warning messages issued by the HerschelFORM 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 not be communicated to HOTAC;
- 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 HerschelFORM package when running pdfL^AT_EX, a successful outcome of this process **does not guarantee** that a proposal is fully compliant.

Proposals must be submitted via the HSpot Proposal Submission Tool. You should upload the pdf file of your proposal, following the instructions in HSpot.

You will be requested to finalise the submission by clicking on the corresponding button in the HSpot proposal submission tool. **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 Herschel proposal validation software will return, first, a pop-up message on the screen to confirm that the proposal has been successfully sent to the Proposal Handling System at the Herschel Science Centre; note that this pop-up does not guarantee that the proposal has been received, nor that it has been processed correctly. Later, after the proposal has been processed successfully in the Proposal Handling System, you will receive, by email, a confirmation message and an identifier assigned to the valid proposal. This identifier and the email that contains it, represent the official confirmation that the proposal successfully entered the Proposal Handling System and was processed correctly. We recommend strongly that you save this email with the identifier as the identifier will be required if you wish to download and/or update the submitted proposal later.

Submission Problems

The pop-up message should be returned within seconds of submission. If after a minute this pop-up has not appeared, you should abort the submission and repeat it.

The proposal submission acknowledgment email is normally received within a few minutes of completion of a submission. However, during the last few hours before the Phase 1 deadline, the system may be slowed down by the high load, and the acknowledgment process may take tens of minutes or, in extreme cases, even hours for very large proposals. Please **be patient**: even though it may seem as if “nothing is happening”, the system most likely is actually busy processing a queue of proposals and many thousands of AORs. Please **do not** make a new attempt to submit the same proposal: this will only increase the load on the system and make it even slower, quite apart from causing the Proposal Handling System to believe that the resubmission is a new proposal.

If you have not succeeded in obtaining the pop-up confirmation of your submission by the deadline, please contact the Herschel Science Centre via Helpdesk (<http://herschel.esac.esa.int/esupport/>) labelling your query as “critical” .

Once you have uploaded the PDF of your proposal, your attempt, and the time at which you initiated it, are recorded in the Herschel system, so that anomalous delays due to the proposal reception system will be duly identified; this system is closely monitored at closure and Herschel Science Centre staff will usually be aware of any unusual problems with the system in real time, often before the users are.

Be aware that if you experience difficulties due to the proposal reception system, you most likely are not the only user that is suffering from them, and the various problem reports must be handled sequentially, so it may be a few minutes before you receive feedback from the Herschel Science Centre.

A safe way to avoid submission problems (often related to heavy system load during the last few hours before the deadline) is to submit your proposal early. We strongly encourage you to send in your applications and all attachments several days before the deadline. The system allows you to submit and update the proposal as many times as is necessary before the deadline, so it is always a good idea to submit an early version of the proposal as a safety precaution, well before the deadline.

All proposals and their attachments must reach the Herschel Science Centre servers via the HSpot interface BEFORE 12:00 UT on the date of the deadline. Responsibility for verifying that the Herschel Science Centre has correctly received your proposal before the proposal submission deadline rests entirely with the P.I. Provided that the proposal has been successfully received before the deadline, the submission will be accepted, processed, and acknowledged, even if this processing continues well after the deadline has passed.

Revisions, corrections, and/or modifications submitted after the deadline will not be accepted

unless specifically requested by Herschel Science Centre staff.

IMPORTANT NOTICE

Electronic proposal submission does not allow applicants to sign their proposals. Therefore the Herschel Science Centre assumes that P.I.'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 and abide by ESA rules should observing time be granted.