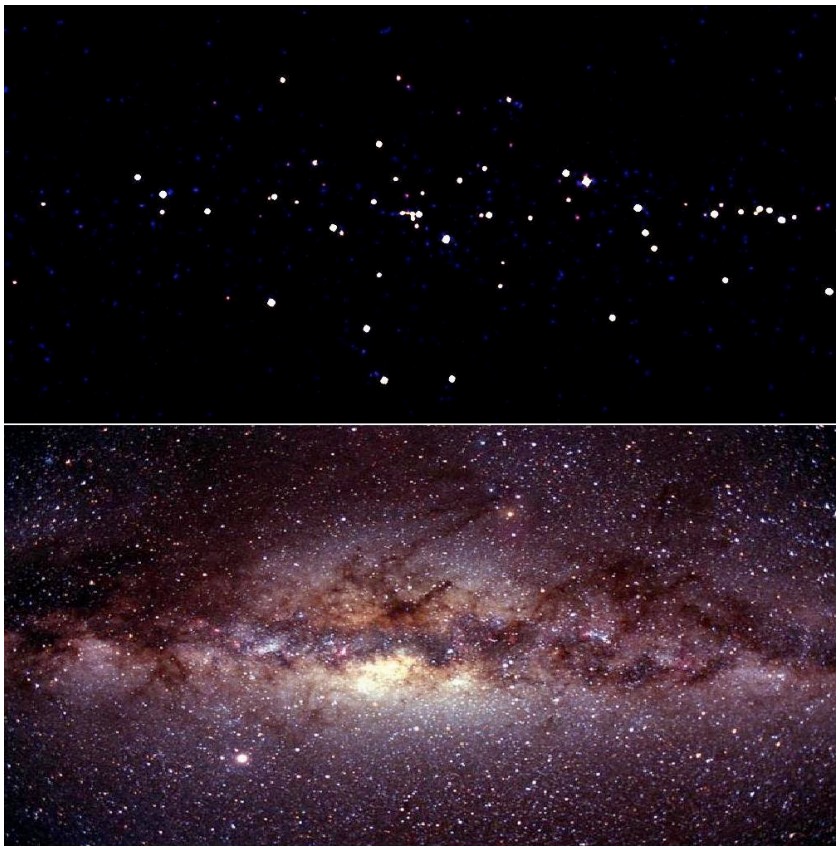
I N T E G R A L S C I E N C E D A T A
C E N T R E

INTEGRAL OFF-LINE SCIENTIFIC ANALYSIS



INSTALLATION GUIDE

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1. Welcome

This document describes the installation of the INTEGRAL Off-line Scientific Analysis (OSA) version 10 on Linux and Mac OS X on Intel processors.

OSA is composed of the following packages:

- Off-line Scientific Analysis Software (OSA_SW)
- Instrument Characteristics (OSA_IC)
- 'High-energy' Catalogue (OSA_CAT)
- Test Observations, which consist of a set of data and related scripts (OSA_TESTDATA)

In order to successfully analyse INTEGRAL data, you will have to download and install at least the three packages

- **OSA_SW**
- **OSA_IC**
- **OSA_CAT**

via the following URL http://www.isdc.unige.ch/integral/analysis#Software and retrieve observation data from the INTEGRAL archive (http://www.isdc.unige.ch/integral/archive)

> The download and use of OSA_TESTDATA is optional. It is meant to check the correct installation of OSA by running test scripts on a small data set.
>
> OSA software comes as a binary package or may be installed from the source code. ***We strongly recommend that you first install and test the binary package for your operating system(s).***
>
> You can use the binary packages to compile and link your own software with OSA libraries. If you have problems doing so, please read Appendix A on 'Troubleshooting'.

This document is part of the INTEGRAL analysis user documentation available at http://www.isdc.unige.ch/integral/analysis. In particular, detailed information about the software is provided in the instrument specific user manuals.

If you have any problems installing OSA please consult the 'Frequently Asked Questions' at http://www.isdc.unige.ch/integral/analysis#FAQ to check for an answer to your question or send an E-mail to the INTEGRAL help-desk at inthelp@sciops.esa.int. See the appendix on 'Troubleshooting' for information you should provide to help us solving the problem you have.

2. Installing the Software

The INTEGRAL OSA software is available via the following URL http://www.isdc.unige.ch/integral/analysis#Software. Packages containing the OSA binaries for the following operating systems are provided for your convenience:

- Linux

  The OSA software requires as run-time library the **libgfortran.so.3** and the **libc.so.6** libraries. These library have to be installed before the OSA software can be used. The libc.so library is most likely already installed with recent operating systems. The libgfortran.so library can be received by various packages, depending on the Linux distribution. For example:
  - CentOS 6 – x86_64
  - Scientific Linux - i686
  - Scientific Linux - x86_64

- Mac OS X

  OSA binaries are distributed for Mac OS X 10.9 (Mavericks), 10.10 (Yosemite), and 10.11 (El Capitan). Varying slightly with the operating system of your choice, the total amount of disk space required to install the OSA software is some 1 Gbyte.

If you are running an operating system for which no binary package is available, or you cannot use the binary packages for another reason, you need to download and install the source code package. Please see Appendix B for the detailed system requirements and instructions to install the OSA software from the source code.

We strongly recommend that you first install and test the binary package for your operating system(s).

Linux users:

Once you have downloaded the binary package for a Linux operating system,

- Move it to a directory to which you have write access and
- unpack the downloaded tar-file using e.g. one of the following command

```
gzip -dc osa10.2-bin-linux32.tar.gz | tar xvf -
gzip -dc osa10.2-bin-linux64.tar.gz | tar xvf -
gzip -dc osa10.2-bin-ubuntu.tar.gz | tar xvf -
```

Mac OS X users:

For symmetry with Linux, OSA 10.2 is distributed for Mac OS X as a 'tar.gz' file and no more (since OSA 10.1) as a disk image ('dmg.zip'). You can first 'unzip' and 'untar' the downloaded file by double-clicking on the icon of the one of the following file:
`osa10.2-bin-mavericks.tar.gz` or `osa10.2-bin-yosemite.tar.gz` or `osa10.2-bin-elcapitan.tar.gz`

Resulting from the above command(s) you will find the directory `osa10.2` containing all the OSA software (Mac OS X users may want to move this directory in the '/Applications/' directory). This directory is referred to as `ISDC_ENV` in the INTEGRAL OSA user documentation.

You will have to set the environment variable `ISDC_ENV` to the full pathname of this directory to use the just installed OSA software. Details on setting up the run-time environment can be found in the cookbook sections of the instrument specific OSA user manuals.

You still need to install the 'Instrument Characteristics' and the 'Reference Catalogue'. Their installation is described in the following two sections.

3. Installing the Instrument Characteristics

Since OSA 8.0, the IC data is no more provided as a pre-packaged tar-file nor via a script to download the files.

1. Define an archive directory to store the instrument characteristics and the reference catalogues. Then execute one of the following commands:

```
setenv REP_BASE_PROD __archive_directory__                    -- for csh family
REP_BASE_PROD=__archive_directory__ ; export REP_BASE_PROD    -- for sh family
```

(If the setenv commands fail with a message like: 'setenv: command not found' or 'setenv: not found' please read the appendix on 'Troubleshooting'.)

2. with the following command you will retrieve the IC data from the ISDC server :

```
rsync -Lzrtv isdcarc.unige.ch::arc/FTP/arc_distr/ic_tree/prod/  $REP_BASE_PROD
```

A total disk space of some 3+ GBytes is needed to install the full IC data containing all INTERAL instruments.

The file names of the IC data are significant and must not be changed. Otherwise internal references in the IC data will be broken.

To learn more about 'ISDC compliant Data Repositories' (`REP_BASE_PROD`) and 'Instrument Characteristics', please refer to the OSA User Manuals (especially the 'Introduction to the INTEGRAL Data Analysis') at the following URL http://www.isdc.unige.ch/integral/analysis

4. Installing the Reference Catalogues

The INTEGRAL reference catalogue and the OMC reference catalogue are available via the following URL http://www.isdc.unige.ch/integral/analysis#Software.

A total disk space of 85 MB is needed to install the two catalogues.

Once you have downloaded the OSA_CAT package,

- cd to a directory to which you have 'write' access.

Typically, the directory where you unpack the reference and OMC catalogue is as well used for the installation of the instruments characteristics, see above.

- Unpack the downloaded tar-file using e.g. the following command
  `gzip -dc osa_cat-40.0.tar.gz | tar xvf -`

To learn more about 'ISDC compliant Data Repositories', 'OSA Catalogues' and DOLs, please refer to the OSA User Manuals (especially the 'Introduction to the INTEGRAL Data Analysis') at the following URL http://www.isdc.unige.ch/integral/analysis

5. Installing and Using the Test Data

Now you may want to test the installed OSA software. To be able to do so, OSA comes with a test data packages running an analysis on small data sets from Crab observations for 5 instruments. Those packages are available via the following URL
http://www.isdc.unige.ch/integral/analysis#Software

A total disk space of about 3 GB is needed to install the test data packages. After running the test scripts, the disk space required grows to about 5 GB.

1 Installing the Test Data

Once you have downloaded the test data package,

1. Create a directory to which you have write access and `cd` to this directory.

2. Unpack the downloaded tar-file using e.g. the following command
   `gzip -dc osa_testdata-10.2.tar.gz | tar xvf -`

3. `cd` to the `testdata` sub-directory that was created via the above command. This directory will be referred to as `REP_BASE_PROD` for the rest of this section.

4. Create links to the already downloaded OSA_IC package in the archive directory.

```
ln -s __archive_directory__/ic ic
mkdir idx                          – if the idx directory does not exist yet
cd  idx
ln -s __archive_directory__/idx/ic ic
```

2 Running the Test Scripts

Once a consistent set of the OSA software, IC, CAT and the test data packages has been successfully installed, the available test scripts can be used to verify the correct installation, set-up and functioning of the INTEGRAL Off-line Scientific Analysis.

To do that, the following command sequence should be followed

1. `setenv ISDC_ENV __directory_of_OSA_SW_installation__` – for csh-family
   `ISDC_ENV=__directory_of_OSA_SW_installation__ ; export ISDC_ENV` – for sh-family
   e.g. "/Applications/osa10.2/"

2. `setenv ISDC_REF_CAT __DOL_of_the_reference_catalogue__`
   e.g. "__directory_of_cat_installation__/cat/hec/gnrl_refr_cat_0040.fits[1]"

   ⚠ The double-quotes ("") are important if you are using a shell of the csh-family. Otherwise the shell will try to interpret the [1] as a regular expression.

3. `setenv ISDC_OMC_CAT __DOL_of_the_OMC_catalogue__`
   e.g. "__directory_of_cat_installation__/cat/omc/omc_refr_cat_0005.fits[1]"

   ⚠ The double-quotes ("") are again important (see above).

4. `setenv REP_BASE_PROD __TEST_DATA_install_dir__/testdata`

5. `source $ISDC_ENV/bin/isdc_init_env.csh` – for csh-family
   `. $ISDC_ENV/bin/isdc_init_env.sh` – for sh-family
   ⚠ The 'source' or the leading '.' are important!

6. `cd __TEST_DATA_install_dir__`

7. It's always a good idea to remove old parameter files that are stored in your user pfiles directory – usually the pfiles subdirectory in your home directory. You actually only need to remove the entry-level parameter files, ibis_science_analysis.par, jemx_science_analysis.par, omc_science_analysis.par or spi_science_analysis.par

8. `make test INSTR=`*`instr`*
   instr should be either `ibis`, `picsit`, `jemx`, `spi` or `omc` to perform the test for a specific instrument.
   The test runs of the different instruments are independent of each other and can be launched in any order.

9. `make dircmp INSTR=`*`instr`* – optional. See below for details.
   instr should be either `ibis`, `picsit`, `jemx`, `spi` or `omc` to verify the test for a specific instrument.

The "`make test INSTR=`*`instr`*" command will run the data analysis for the test observation. If you have the FTOOL fdiff available on your system, you may run as well the "`make dircmp INSTR=instr`" command. A comparison of the output data of the current test run with the reference output data will be performed. The reference output data is included in the OSA test data package in the directory 'instr_outref'. It was generated running OSA on a 64-bit Linux platform. Users of 32-bit system or Mac OS X users should expect small differences due to platform specifics. The `make test` command should exit with a return code of 0. Users may check the return code by typing echo '$?' immediately after the `make test` or `make dircmp` command.
If `make test` terminated with an error and you cannot figure out the problem yourself, please consult the 'Frequently Asked Questions' at http://www.isdc.unige.ch/integral/analysis#FAQ to check for a solution to your problem or send an E-mail to the INTEGRAL help-desk at inthelp@sciops.esa.int. See the appendix on 'Troubleshooting' for information you should provide to help us solving the problem you have.

6. Getting and Installing Integral Data

1 Public Data

Requests for public INTEGRAL data can be made via the ISDC archive browser at the following URL: http://www.isdc.unige.ch/integral/archive
Once you have selected the data you want to download, you will receive an e-mail with detailed instructions on how to install the public INTEGRAL data.

2 Private Data

Once the data for your observation has been fully processed, the PI will receive an e-mail with detailed instructions on how to download and install the private INTEGRAL data. The PI will receive first the message for the NRT data and then for the consolidated version. Since AO12, all the INTEGRAL data are available straightforwardly for sources that were not assigned to a scientist, with the exception of the observations assigned to PIs from the Russian federation. To download these data, it is necessary to visit the page: http://www.isdc.unige.ch/integral/archive#NRT_CONS_data
and agree to the "terms and conditions". Starting from AO13, all the consolidated data are made available, regardless of the PI provenance. For example, scientists interested in a new transient appearing on a private observation can download and use all the available INTEGRAL data for their publication.

Appendix A: Troubleshooting

1 Problems with the `setenv` command

If the `setenv` command fails with a message like: '`setenv: command not found`' or '`setenv: not found`', you are very likely not using a command interpreter (shell) of a C-Shell flavour (e.g. csh or tcsh). Please replace the command `setenv my_variable my_value` by the following command sequence
`my_variable=my_value ; export my_variable`

> ⚠ No blank characters ' ' must be present in the `my_variable=my_value` command. Otherwise you will get an error message like '`my variable not found`'.

2 Problems with the `source` command

If the source command fails with a message like: `'source: not found'` or you get many error messages indication that the command actually failed, you are very likely not using a command interpreter (shell) of a C-Shell flavour (e.g. csh or tcsh). Please replace the command '`source my_script`' by the following command '`. my_script`'

> ⚠ You really must type the '.' followed by a blank character before the name of the script. Otherwise the setting of the environment variables inside the script will not be kept after the script terminated.

3 Problems linking your own software with OSA libraries

If you are using a binary installation and you are having problems to link your own software with OSA libraries the following command sequence might help:

```
cd $ISDC_ENV ; mv lib lib_orig ; ln -s libalt lib
```

```
cd $ISDC_ENV ; mv root root_orig ; ln -s rootalt root
```
– only needed for Mac OS X

If you still have problems, you probably need to compile the OSA software from the source code and link your software using the newly built libraries.

4 Reporting problems to the INTEGRAL help desk

For an efficient trouble-shooting, please include the following information in your E-mail to the help-desk inthelp@sciops.esa.int.

- the version of the OSA software package
- the name and version of the operating system. Type `uname -a` to retrieve this information. Linux users should in addition provide the contents of file /proc/version.
- the version of the OSA_IC package used
- the version of the OSA_CAT package used
- if you are having a problem running the test scripts:
    - in the terminal window where the make test was run, execute the `env` or `printenv` command and provide the output to the ISDC.
    - the contents of the following files make_test_failed.log or make_dircmp_failed.log depeding on whether the '`make test`' or '`make dircmp`' failed.
- if you are building the OSA software from the source code:
    - the name and version of the compiler(s). For the GNU compilers, type '`gcc -v`' and '`g++ -V`'
    - the name and version of the make program. Type '`make -v`' or '`gmake -v`' depending on the name of the GNU make on your system.

Appendix B: Installing the Software from Source Code

If you are running an operating system for which no binary package is available, or you cannot use the binary packages for another reason, do not hesitate to contact us via the INTEGRAL help-desk at inthelp@sciops.esa.int for troubleshooting or to check for the possibility to obtain a custom made binary package.
We strongly recommend that you first install and test the binary package for your operating system(s).

1 Supported Platforms

The OSA software was checked by ISDC to correctly compile, install and run on the following platforms:

- Linux

Scientific Linux 6.7, Carbon (32 bit)
GNU C/C++ (gcc) compiler version 4.4.7 and
GNU Fortran (gfortran) compiler version 4.4.7
Scientific Linux 6.6, Carbon (64 bit)
GNU C/C++ (gcc) compiler version 4.4.7 and
GNU Fortran (gfortran) compiler version 4.4.7

Ubuntu 14.04.2 LTS (64 bit)
GNU C/C++ (gcc) compiler version 4.8.2 and
GNU Fortran (gfortran) compiler version 4.8.2

- Mac OS X

  Mac OS X Mavericks (v. 10.9.5), Yosemite (v. 10.10.5), and El Capitan (v. 10.11.1)
  GNU C/C++ compiler shipped with the OS
  G95 Fortran compiler shipped with the OS

The binary OSA software packages that we provide at the ISDC are generated for these platforms.
In general, the OSA software will also compile and run on a variety of other Linux platforms. As we at the ISDC do not necessarily have access to those platforms, we unfortunately can only offer limited support for those platforms.

2 Third Party Software

Before compiling and installing the OSA SW from the source code you have to make sure that the following packages are installed:

1. GNU make version 3.79.1 (or higher)

   ⚠ You really need this version of GNU make for all platforms. Most Linux distributions will already include the correct make. Earlier versions of GNU make are known not to work.

2. ROOT version 5.34.34

   available via the ISDC website at URL http://www.isdc.unige.ch/integral/analysis#Software in the section on 'Download OSA 10.2 for Developers'.

   ℹ Since OSA software version 3.0 you can choose between an installation with and without ROOT. If you choose to install without ROOT, you will NOT benefit from all OSA functionalities, i.e. GUI support is not available. To learn more about how to install OSA without ROOT please see section 'Setting up the Environment'.

   ⚠ For Mac OS X users it is required to install ROOT from the source code.
   For other operating systems it is recommended to install ROOT from the source code. If you want to download ROOT as a binary package, you must make sure that the compiler used to compile ROOT is identical to the one you are using for the installation of the OSA SW. Otherwise, please download the ROOT source code package and compile and install it yourself. Using different compilers may result in serious problems with your X-system.

3 Hardware Requirements

- **Disk Space**

  To build and install the OSA software from source code a total of some 1.7 GByte of disk space is needed – depending on the operating system and compiler used.

  After the successful installation from the source code you may reduce the disk space needed by OSA software by executing '`make distclean`' in the same directory where you executed '`make install`'. This will reduce the amount of disk space needed to some 890 MB. You may additionally remove the source code directories (support-sw, analysis-sw, contrib-sw). This will reduce the disk space needed to some 790 MB.

  You will need approximately 10 GB of disk space to hold the data from one day of INTEGRAL observations.

- **Memory/CPU**

  To actually run the software on observation data you will need at least some 500 MB of memory per simultaneously active user on your system. Although the software will run on slower systems, it is recommended to use systems with at least 500 MHz processors.

4 Installing the Software

The INTEGRAL OSA software source code package (osa10.2-source.tar.gz) is available via the following URL http://www.isdc.unige.ch/integral/osa/current/developers

Once you have downloaded the source code package

- `cd` to a directory to which you have write access and
- unpack the downloaded tar-file using e.g. the following command:
  `gzip -dc osa10.2-source.tar.gz | tar xvf -`

Resulting from the above command(s) you will find the directory osa10.2 containing all the OSA source code. For a typical installation, this directory is referred to as ISDC_ENV in the INTEGRAL OSA user documentation.

5 Setting up the Environment

This section describes the setting of the installation relevant environment variables.

It is not intended to provide a description of the environment that is needed to run the software. The installation environment will not be sufficient to run the software. Please see the instrument specific cookbooks for a detailed description on how to set-up the environment to actually run the OSA software.

1 Compiler

Make sure that your compiler's bin and lib directories are contained in environment variables PATH and LD_LIBRARY_PATH respectively. A way to check this, is to use the '`which`' command followed by the name of your compiler. If the compiler is not found, type the following commands:

```
setenv PATH "__path_to_your_compiler__/bin:$PATH"
setenv LD_LIBRARY_PATH "__path_to_your_compiler__/lib:$LD_LIBRARY_PATH"
```

Users of Mac OS X need to use environment variable `DYLD_LIBRARY_PATH` instead of `LD_LIBRARY_PATH`

If one or both of the above commands fail with a message like: 'LD_LIBRARY_PATH: Undefined variable', omit the `':$PATH'` or `':$LD_LIBRARY_PATH'` part in the commands respectively.

If the `setenv` commands fail with a message like: '`setenv: command not found`' or '`setenv: not found`' please read the appendix on 'Troubleshooting'.

In addition, you have to make sure that all compiler relevant environment variables are correctly set up. Depending on the compiler and OS used, those variables are:

Linux (including Ubuntu) using GNU C/C++ and Fortran Compilers

```
setenv CC  "gcc -Df2cFortran"
setenv CXX "g++ -Df2cFortran"
setenv F90 gfortran
```

The ISDC default setting on Linux is to switch the code optimiser on (option -O2).

You must have a FORTRAN90 compiler installed on your system. Otherwise the build will fail.

If the `setenv` commands fail with a message like: '`setenv: command not found`' or '`setenv: not found`' please read the appendix on 'Troubleshooting'.

Mac OS X

```
setenv CC  "gcc -Df2cFortran"
setenv CXX "g++ -Df2cFortran"
setenv F90  g95
```

2 ROOT

You can choose between an installation with and without ROOT. If you choose to install without ROOT, you will NOT benefit from all OSA functionalities, i.e. GUI support is not available. Once you have installed OSA software without ROOT and would like to use the GUIs, you will have to re-install OSA software from the source code.

If you choose NOT to install with ROOT, you have to make sure that environment variable ROOTSYS is NOT set. Otherwise you will run into problems during the OSA software compilation.

If you choose to install with ROOT, make sure that environment variable ROOTSYS is set to where your ROOT installation is located. The ROOTSYS environment variable should typically point to a directory with at least the following sub-directories: `bin, etc, icons, include` and `lib`. Make sure that your ROOT's bin and lib directories are contained in environment variables PATH and LD_LIBRARY_PATH respectively. A way to check that is to actually execute the '`root`' command and verify the version of root. To exit root, please type '.q'. If root is not found, type the following commands:

```
setenv PATH "$ROOTSYS/bin:$PATH"
setenv LD_LIBRARY_PATH "$ROOTSYS/lib:$LD_LIBRARY_PATH"
```

Users of Mac OS X need to use environment variable `DYLD_LIBRARY_PATH` instead of `LD_LIBRARY_PATH`

If one or both of the above commands fail with a message like: 'LD_LIBRARY_PATH: Undefined variable', omit the `':$PATH'` or `':$LD_LIBRARY_PATH'` part in the commands respectively.

If the `setenv` commands fail with a message like: '`setenv: command not found`' or '`setenv: not found`' please read the appendix on 'Troubleshooting'.

3 ISDC_ENV

Decide where the ISDC software package should be installed. This is controlled via the environment variable ISDC_ENV. You may set the value of ISDC_ENV to any location where you have write permission. It is however recommended to set ISDC_ENV to the directory where the source code of the OSA software package is located.

When installing on a multi-platform system, you might find it useful to have a common source code tree for the various binary installations you maintain. This can be achieved by setting the ISDC_ENV environment variable to e.g. `__osa_src_rep__/Linux_2.4_i686` for an installation under Linux.

Make sure that `$ISDC ENV/bin` is contained in the environment variable PATH – even if this directory does not yet exist at this stage of the installation. If `$ISDC ENV/bin` is not included, execute the following command: `setenv PATH "$ISDC_ENV/bin:$PATH"`. If the `setenv` command fails, please read the appendix on 'Troubleshooting'.

Configure, Build and Install

When the installation environment is successfully set up you may proceed to configure, build and install the software package. This is done by executing the following command sequence in the directory where you unpacked the OSA software source package:

1 configure

cd to the directory where you have unpacked the downloaded tar-file.

If you want to install OSA software without ROOT execute the command
`support-sw/makefiles/ac_stuff/configure --without-cern-root`

If you want to install OSA software with ROOT execute the command
`support-sw/makefiles/ac_stuff/configure`

This command will create all system dependent Makefiles that are needed to build the software. Please type '`support-sw/makefiles/ac_stuff/configure --help`' to learn about the configure options.

The setting of all environment variables mentioned in section 'Setting up the Environment' has to be done prior to executing the configure command. If, after executing the configure command, you change your mind about the value of an environment variable, you must first execute '`make distclean`' and then redo the configuration step.

⚠ When installing on a multi-platform system and you decided to share the source code tree, you must execute '`make distclean`' and then redo the configuration step for each platform.

⚠ Make sure that the environment variable `MAKEFLAGS` is not set.

If the configure step terminated with an error and you cannot figure out the problem yourself, please consult the 'Frequently Asked Questions' at http://www.isdc.unige.ch/integral/analysis#FAQ to check for a solution to your problem or send an E-mail to the INTEGRAL help-desk at inthelp@sciops.esa.int. For an efficient trouble-shooting, please see appendix 'Troubleshooting' for information you should provide to help us solving the problem you have.

2 make install

Type '`make install`'

⚠ You really have to type '`make install`'. A simple `make` will fail.

This will compile all relevant source files, create the library files, the F90 modules and the C/C++ and F90 executables. The installation terminates by moving the library, the C/C++ header files, the F90 modules, the parameter files and the user manuals to the correct location.

If everything went ok, you should see the following message:

```
************ everything compiled and installed successfully ***********

executables are installed in : $ISDC_ENV/bin
parameter files are installed in : $ISDC_ENV/pfiles
F90 modules are installed in : $ISDC_ENV/f90mod
documentation, help, .txt files are installed in : $ISDC_ENV/help
C/C++ include .h files are installed in : $ISDC_ENV/include
.a, .so library files are installed in : $ISDC_ENV/lib
script files are installed in : $ISDC_ENV/share/default_scripts
other shared files are installed in : $ISDC_ENV/share
FITS file template files are installed in : $ISDC_ENV/templates
```

If '`make install`' terminated with an error and you cannot figure out the problem yourself, please consult the 'Frequently Asked Questions' at http://www.isdc.unige.ch/integral/analysis#FAQ to check for a solution to your problem or send an E-mail to the INTEGRAL help-desk at inthelp@sciops.esa.int. For an efficient trouble-shooting, please see appendix 'Troubleshooting' for information you should provide to help us solving the problem you have.

ⓘ Once the installation is successfully terminated you may recover some disk space by removing temporary compilation products. This is done by executing '`make distclean`'. You may even recover more disk space and remove the entire source code tree by executing '`rm -rf support-sw analysis-sw other-sw`' in OSA source code directory.

Now OSA software is fully installed and is ready to be used. Please refer to the OSA documentation available at http://www.isdc.unige.ch/integral/analysis for details on how to run the OSA software. The 'Introduction to INTEGRAL Data Analysis' and the cookbook section of the instrument specific user manual will be of particular use for you.

Appendix C: Document Change History

10.2	Updated for OSA 10.2 (use of same release number). Addition of an Ubuntu binary and update of Mac OS X versions: for Mavericks (10.9), Yosemite (10.10), and El Capitan (10.11), instead of Lion (10.7) and Mountain Lion (10.8).
2.3	Updated for OSA 10.1. Mac OS X Mountain Lion (10.8) instead of Snow Leopard (10.6) and Mac OS X distribution as `tar.gz' file instead of `dmg.zip'.
2.2	Updated for OSA 10.0. The testdata are one package for all instruments
2.1.2	Updated for OSA 9.0. Removed references to Solaris as this is not supported any-more
2.1.1	Changed version of GNRL_REFR_CAT from 28 to 30
2.1	Updated for OSA 8.0, especially the IC download description
2.0.6	Updated description for CAT and IC installation, especially the symbolic linking part for the IC data.
2.0.5	Highlighted more the OMC catalogue, catalogue version number fixed and removed a couple of typos.
2.0.4	Adapted to OSA 7.0
2.0.3	changed e-mail address of INTEGRAL help desk
2.0.2	Adapted to OSA 6.0
2.0.1	Adapted to OSA 5.1
2.0	Complete re-write