

# HOW TO CONTRIBUTE TO HIPE

Davide Rizzo

# TWO WAYS OF CONTRIBUTING



## Jython scripts

```
from java.lang import Integer
from java.lang import String
from org.apache.commons import JProgressReporter

def increment(JTask):
    __init__(self):
        self.addTaskParameter(TaskParameter('input', de
        self.addTaskParameter(TaskParameter('inc', de
        self.addTaskParameter(TaskParameter('output', de
        pr = JProgressReporter()
        self.addListener('progress', pr)
    def execute(self):
        self.input = self.input + self.inc
        self.output = self.input
        self.progress = self.input
```



## Java plugins

```
public String synopsis() {
    StringBuilder sb = new StringBuilder();
    sb.append(String.format("%11s" + OPTION_LEN + " " + OPTION_LEN));
    if (desc != null) {
        char[] spaces = new char[OPTION_LEN];
        Arrays.fill(spaces, ' ');
        int descLineLen = 80 - OPTION_LEN;
        int numOfLines = desc.length() / descLineLen;
        sb.append(desc.substring(0, Math.min(desc.length(), descLineLen));
        for (int i = 1; i < numOfLines; i++) {
            sb.append("\n").append(spaces);
            String line = desc.substring(i * descLineLen, (i + 1) * descLineLen);
            sb.append(line);
        }
        if (numOfLines >= 1 && desc.length() % descLineLen != 0) {
            sb.append("\n").append(spaces);
        }
    }
    return sb.toString();
}
```



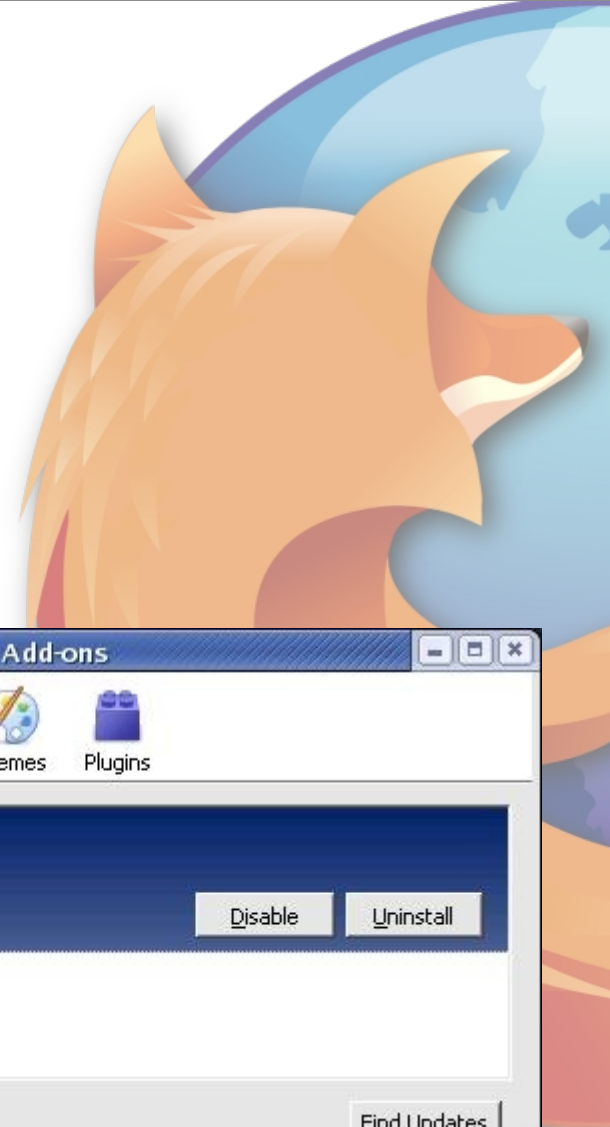
# EXAMPLE: IDL ASTRO LIBRARY



- Contributed and maintained by the community
- External scripts, not part of the core software
- Linked by ITT in the *Related Sites & Links* page
- ITT does not actively support the library
- *Your ideas. Our software tools to make them happen*

# EXAMPLE: FIREFOX ADD-ONS

- A site to upload, download, rate and comment
- Integrated installation and update mechanisms
- The Mozilla Foundation does not develop add-ons...
- ...nor are they shipped with Firefox
- Once installed, they integrate seamlessly into Firefox



```
# Import all needed classes
from herschel.spire.all import *
from herschel.spire.util import *
from herschel.ia.all import *
from herschel.ia.task.wode import *
from java.lang import Long
from java.util import *

# Import the script tasks.py that contains the task definitions
from herschel.spire.ia.pipeline.scripts.POF8.POF8_tasks import *

# Input definition:
from herschel.spire.ia.pipeline.scripts.POF8.POF8_input import *

# Import the script obsloader.py
from herschel.spire.ia.scripts.tools.obsLoader import *

# Open the input dialog to enter inputs
#inputs.openDialog()

# Open a dialog to load the ObservationContext if "obs" is not defined.
try:
    obsid=obs.obsid
except NameError:
    loader=ObsLoader()
    obs=loader.getObs().product

obsid=obs.obsid
print "processing OBSID=", obsid, "("+"hex(obsid)+")"

# Make Engineering conversion of level 0 products
level0_5= engConversion(level0=obs.level0,cal=obs.calibration)

# Add the result to the observation in level 0.5
obs.level0_5=level0_5
```

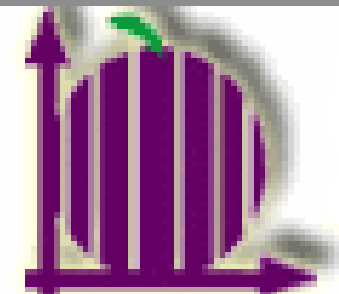
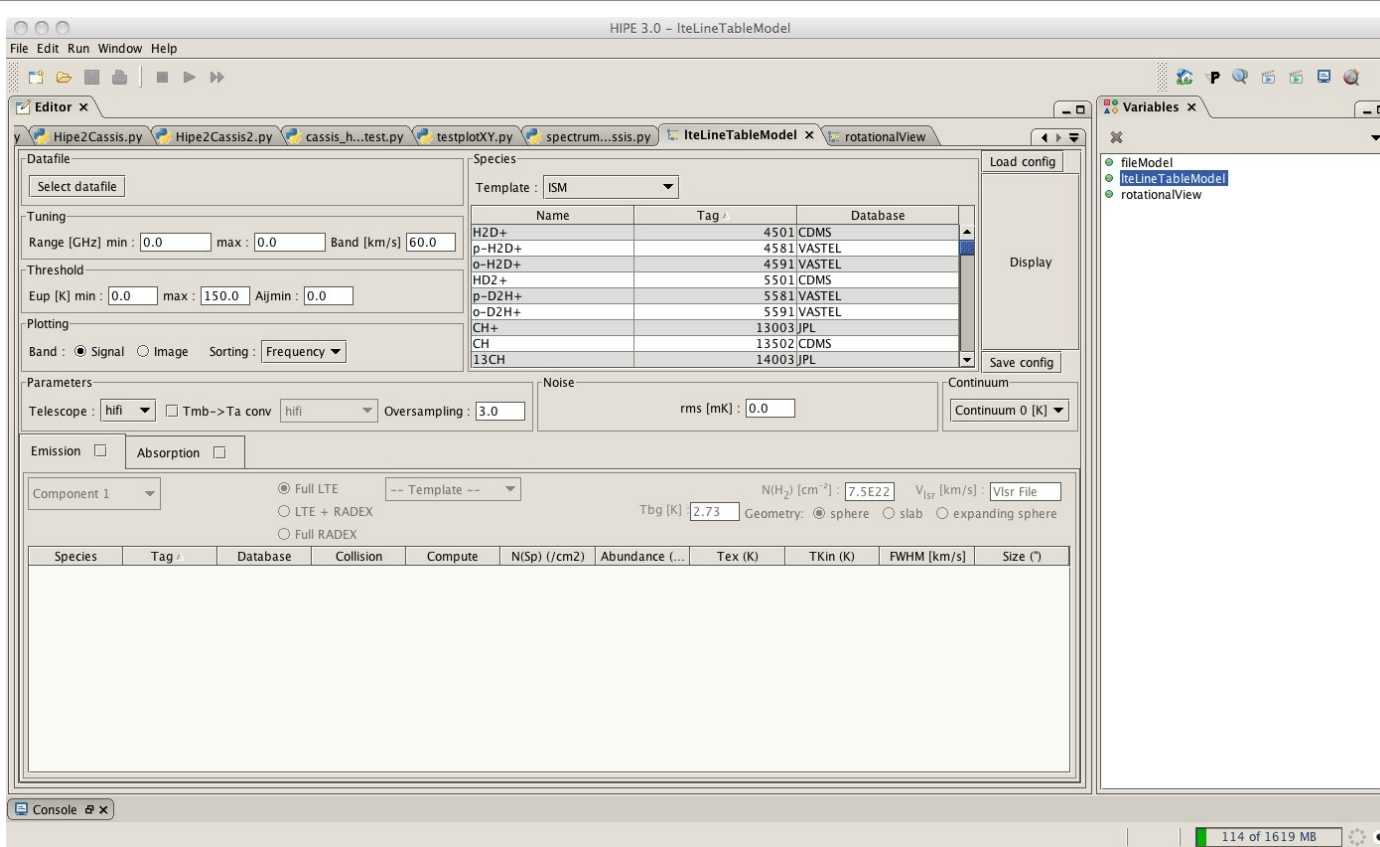
- Can be written as Tasks
- Details in *Scripting and Data Mining*
- Write, load into HIPE and run
- Just like IDL and *astrolib* scripts
- We can provide a directory page  
for user-contributed scripts

- May be Tasks, Views, Perspectives...
- ...and packaged as JAR files
- Add the JAR to your CLASSPATH  
and you're done (well, almost)
- We can provide a directory page
- A fully-fledged add-on mechanism is  
trickier!





# EXAMPLE OF THIRD-PARTY PLUGIN: CASSIS



By Emmanuel Caux

- Comes as an additional JAR file
- You must have it on your CLASSPATH

# CHANGING HIPE FROM THE INSIDE



- Unpack zip file with the sources  
(look in *src* subdirectory)
- Edit the source files
- Compile them with *javac*
- Pack *class* files into a new JAR file
- Put JAR file into CLASSPATH
- Start HIPE and enjoy!





# THINGS TO LOOK OUT FOR



- Include external libraries in CLASSPATH
- Register Task in `__init__.py` (or other Python file) with *TaskToolRegistry*
- Ensure files in JAR file have correct path
- Include JAR file at the top of *installed.userlibraries*



- *HIPE Contributor's Guide*  
(in preparation)
- If you have TWiki access:  
look at the *Quick Guides*  
in the HCSS Web

P.S.: how to write Tasks is already covered in the *Scripting and Data Mining* guide available from HIPE 2.0 Help

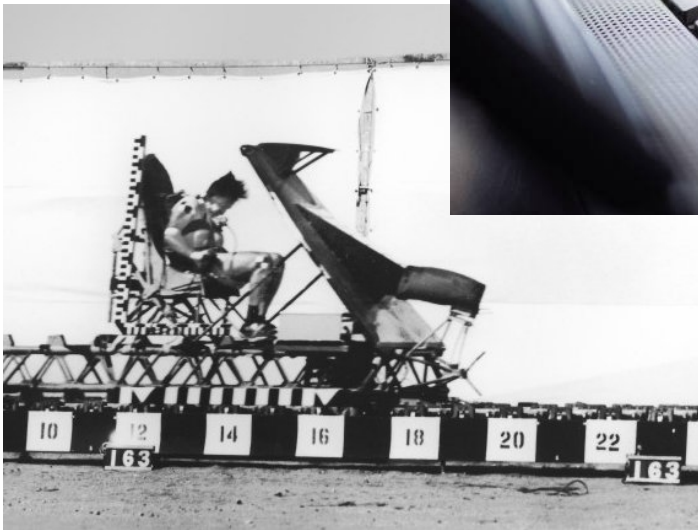
# YES, BUT WHEN?

- Contributor's Guide: by end of February 2010
- Everything else: it depends on the outcome of the discussion!
- Simpler infrastructure can be provided more quickly
- If you do not know how to do this, please send a ticket to the Helpdesk and we can teach you how to do it step by step.



# CODING IS NOT EVERYTHING

**Who would like to contribute with...**



*Beta testing?*



*Coding (Jython/Java)?*



*Documentation?*



**Thank you**

*Any questions?*