Observation Data Model & the Radio Data Model

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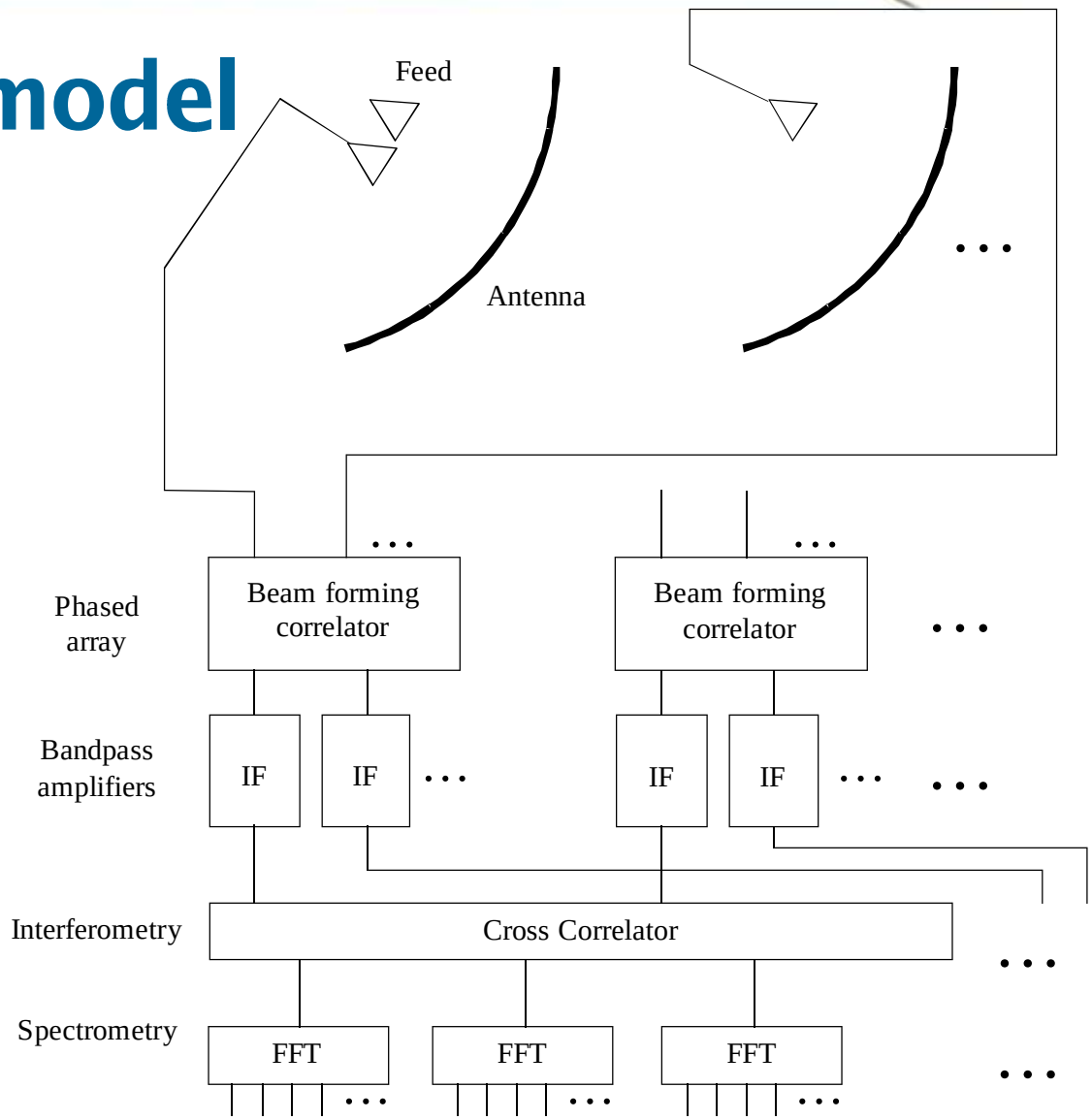
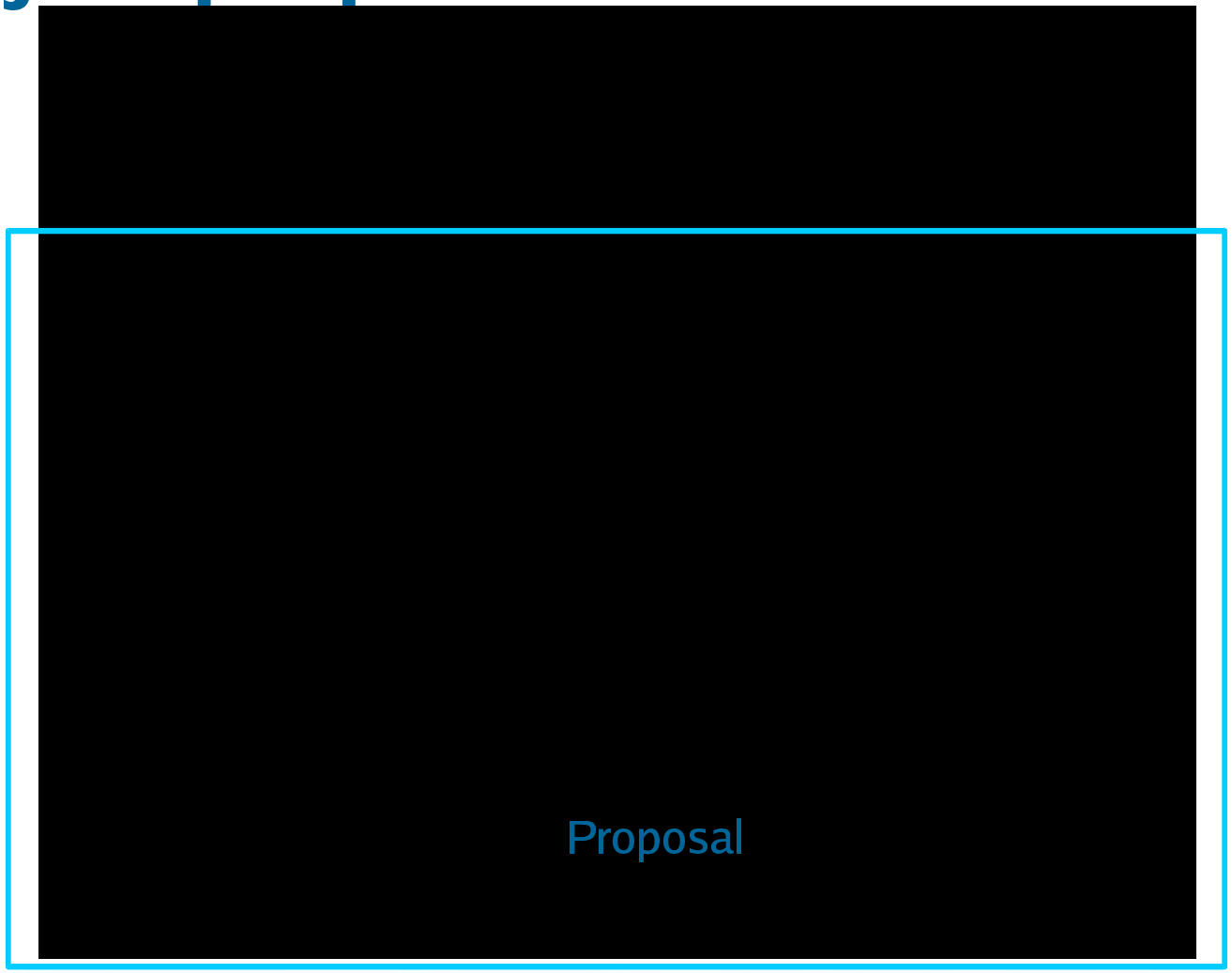
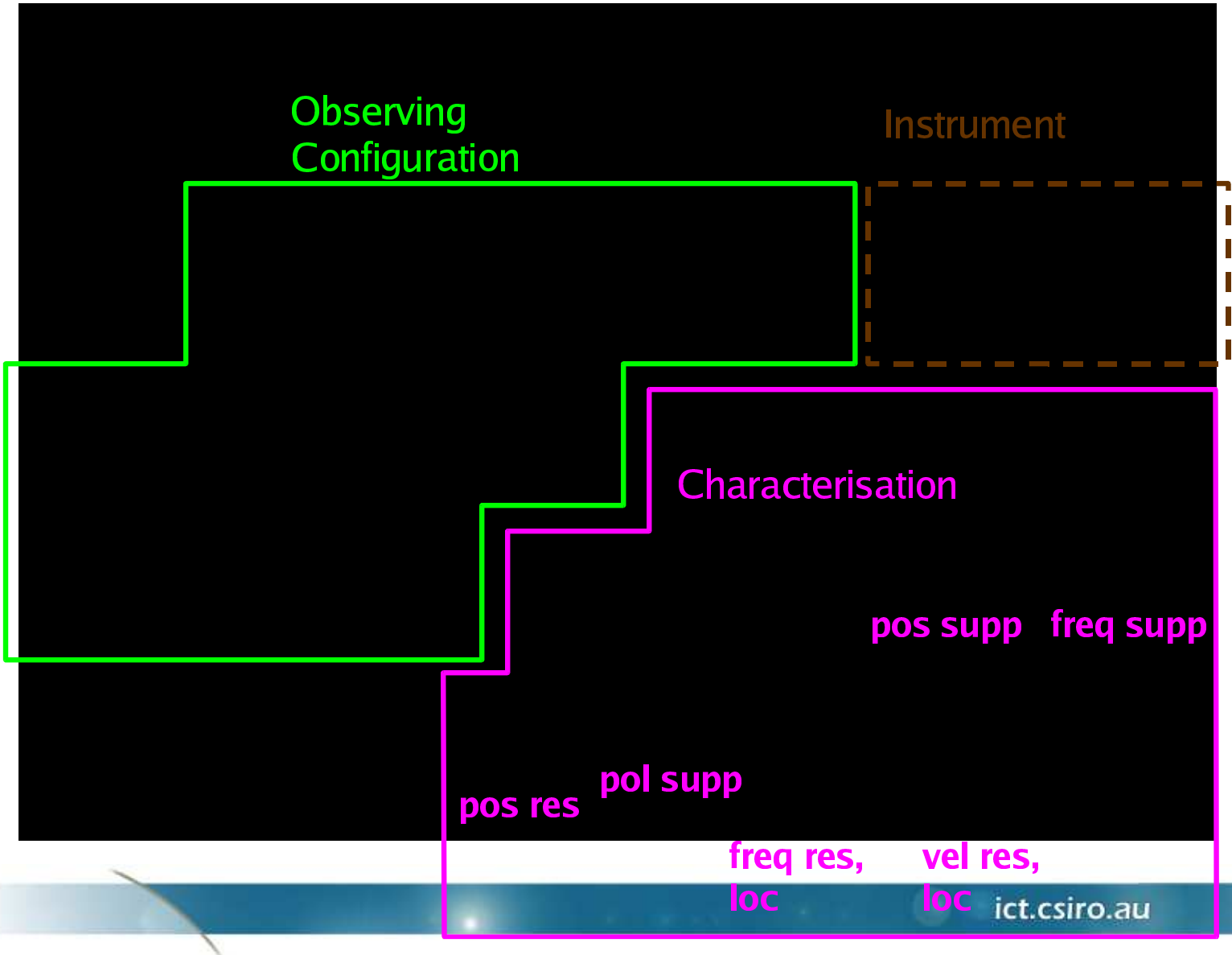
Instrument model



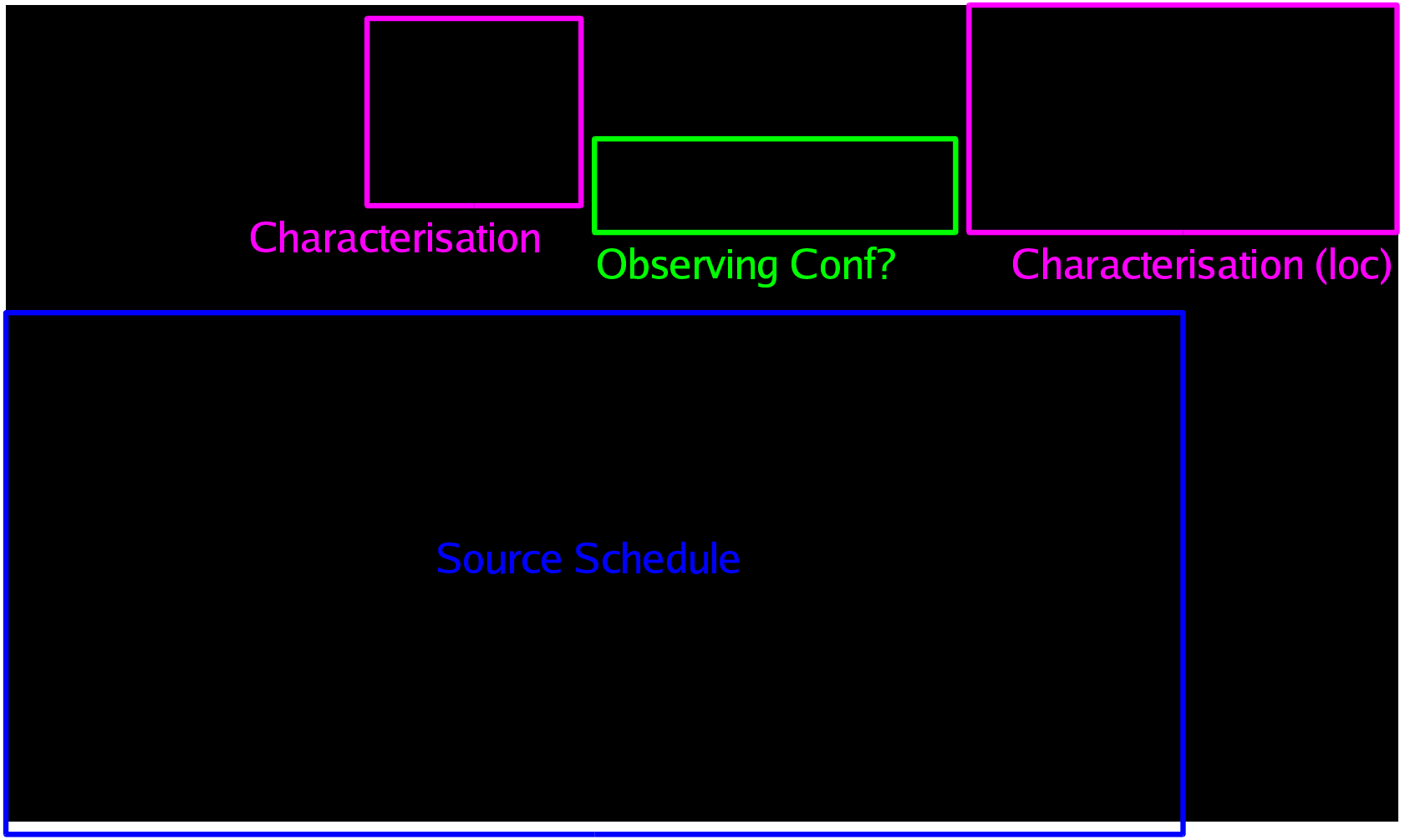
Project proposal



Observing Configuration &



Observation & calibration data



What we get from the model

- Search for data (cone, frequency coverage, frequency resolution, etc)
- Search for provenance (observers, reasons for making observation, configuration of instrument)
- Search for data+calibration strategy
  1. Ability to drive web service data reduction workflow

Pipeline driven from metadata

```
# Imports omitted…
user='xxx'
passwd='xxxxxxxxxxxxx'

# Query fragment for the ATOA
tables = [  stringType('project'),
            stringType('observation')
   ]
qualifier = """project.code = 'C883' and
               observation.starttime >= '2000-06-05' and
               observation.starttime < '2000-06-06'"""

serverurl = 'http://plexus.act.cmis.csiro.au:8123/wsdl';

server = WSDL.Proxy(serverurl)
```

Pipeline driven from metadata

```
handle = server.GetFileSpaceHandle(intType(1))

fetched = server.SimpleQueryFetchFiles( handle,
                      stringType(user), stringType(passwd),
                      arrayType(tables), stringType(qualifier),
                      return_url = 0)
ms = server.Filler(handle, '.',
                      fetched['fileinfo'], fetched['spws'][0],
                      return_url = 0)
ms = server.Calibrator(handle, ms, fetched['primary'],
   fetched['secondary'],
                      return_url = 0)
targets = [fetched['secondary']] + fetched['targets'].data
images = server.Imager(handle, ms, targets,
                      ImagerParamsType('3arcsec', 512),
                      return_url = 1)
for image in images.data:
    urlretrieve(image, os.path.basename(image))

server.FreeFileSpaceHandle(handle)
```

Get scratch space on server

Fetch files & metadata

Select & convert data

Calibrate against reference sources

Image & clean

Fetch images

Free scratch space