SSA Interface Summary (Draft)

SSA Query

Required parameters (service must permit these)

pos	(ra,dec; IRCS)
size	diameter of aperture or search region
format	all; graphic; metadata; provider; text/plain, text/xml, text/xml:votable, application/fits, etc.

Optional parameters (service may ignore these)

time	lower,upper (ISO string as in RSM)
bandpass	ID or numerical bandpass in meters (as in RSM)
collection	e.g., survey name (from query response)
id	dataset ID
aperture	aperture size for computed or virtual spectra in degrees (default: size)
verbosity	query response verbosity
rank	all (default), N top items (rank=1 is top item)

Under consideration

keyword	name,name,...
redshift	lower,upper (source attr)
snr	minimum source flux/rms ratio

Query Type

findSED, findSpectrum, findTimeSeries, all with the same parameters. *findSED* can find anything, others only find Spectrum or TimeSeries.

Query protocol

Any of HTTP GET, POST, SOAP; all with the same parameters

Query Response

The SSA query response is a VOTable in which most of the fields are objects defined by the SSA data model. Objects appear in the VOTable query response as GROUPed sets of fields, with UTYPE specifying the interface or SSA DM field. Fields marked with a $ are required output. The *findSED* and *find{Spectrum|TimeSeries}* services return different tables. A *findSED* may find SEDs, or spectra or timeSeries which are

degenerate cases of SEDs. In the latter case SED.NSegments = 1 and SED.SegmentType = {"spectrum" | "timeseries"}, however only SED metadata is returned.

All Queries

```
Rank              highest ranking candidates are best match
Target object     target object metadata (from SSA DM)
$Format           dataset format
$Acref            access reference URL
```

Additional fields (SED)

```
$SED object SED object metadata (from SSA DM)
```

Additional fields (Spectrum or TimeSeries)

```
$Dataset object
$Coverage object
Spatial.error
Spatial.resolution
Time.resolution
SpectralCoord.type
SpectralCoord.resolution
Flux.type
Npts              Npts in spectrum or time series
```

As an example of the usage of GROUP and UTYPE, the field definitions required to include the Dataset object in the query response VOTable would resemble the following:

```
<GROUP utype="Dataset">
   <FIELD name="xxx" utype="Title" ucd="xxx"></FIELD>
   <FIELD name="xxx" utype="Creator" ucd="xxx"></FIELD>
   <FIELD name="xxx" utype="Collection" ucd="xxx"></FIELD>
       ...
</GROUP>
```

Here the fields of the returned query response table are Dataset.Title, Dataset.Creator, and so forth.