

Filling Out the Uniformly Sampled Class

The **<Uniformly_Sampled>** class can be used in any table-type class (like **<Table_Character>**) when the table contains records which are uniformly spaced in some dimension (time, wavelength, distance, etc.). This class is used to define that dimension and interval rather than including an additional field in each row to hold the value explicitly.

There are certain types of data where this class can prevent a very large data file from increasing in size by 50%. Such tables are predominantly used by software, not human readers scanning them by eye. Unless those two conditions apply to your data, you should include the extra column.

For additional explanation, see the *PDS4 Standards Reference*, or contact your PDS node consultant.

Following are the attributes and subclasses you will find in **<Uniformly_Sampled>**, in label order.

Note that in the PDS4 master schema, all classes have capitalized names; attributes never do

<sampling_parameter_name>

REQUIRED

The name of the dimension of sampling (wavelength, time, etc.)

<sampling_parameter_interval>

REQUIRED

Distance between records in units of the sampling parameter. So if you are sampling in time the interval might be 100 milliseconds, for example, so the value you would put here is *100*.

<sampling_parameter_unit>

REQUIRED

The unit associated with the *sampling_parameter_interval*, *first_sampling_parameter_value*, and *last_sampling_parameter_value*, following. In the previous example, this would be *ms*.

<first_sampling_parameter_value>

REQUIRED

The value of the sampling parameter at the point where the data of the first record were recorded. The data dictionary specifically indicates that the minimum sampling parameter value corresponds to the first datum of the sampling interval - so it directly corresponds to the first sample.

The units for this value are in the *sampling_parameter_unit* attribute, above.

<last_sampling_parameter_value>

REQUIRED

The value of the sampling parameter at the point where the data of the last record were recorded.

The units for this value are in the *sampling_parameter_unit* attribute, above.

<sampling_parameter_scale>

REQUIRED

This is actually the type of the scale. It must be one of the standard values **Exponential**, **Linear**, or **Logarithmic**. If you specify a type of *Exponential*, you must also include a <sampling_parameter_base> attribute. Logarithmic scales are assumed to be base 10 unless a <sampling_parameter_base> attribute is present with a different value.

<sampling_parameter_base>

OPTIONAL

This attribute is required to be present and greater than 0.0 for exponential sampling scales. It is optional (but still required to be greater than 0.0) for logarithmic scales (base 10 is assumed if this attribute is not present). It is prohibited if the scale is linear.