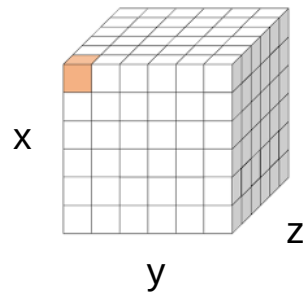


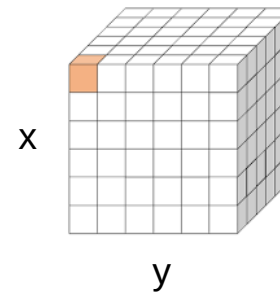
<https://github.com/nexusformat/definitions/issues/1212>

Regular grid
1 coordinate per dimension
Length of axes == Rank

```
data:NXdata
  @signal="data"
  @axes=["x", "y", "z"]
  data: float[10,20,30]
  x: float[10]
  y: float[20]
  z: float[30]
```

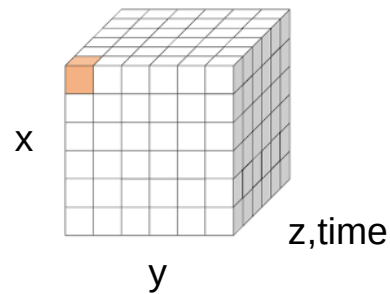


```
data:NXdata
  @signal="data"
  @axes=["x", "y", "."]
  data: float[10,20,30]
  x: float[10]
  y: float[20]
```



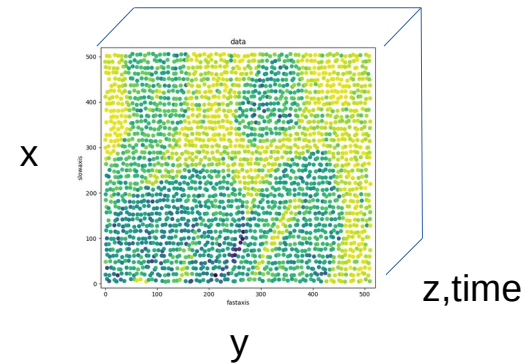
Regular grid
n coordinates per dimension

```
data:NXdata
  @signal="data"
  @axes=???
  data: float[10,20,30]
  x: float[10]
  y: float[20]
  z: float[30]
  time: float[30]
  x_indices: 0
  y_indices: 1
  z_indices: 2
  time_indices: 2
```



Irregular grid
n coordinates per dimension

```
data:NXdata
  @signal="data"
  @axes=???
  data: float[10,20,30]
  x: float[10,20]
  y: float[10,20]
  z: float[30]
  time: float[30]
  x_indices: 0,1
  y_indices: 0,1
  z_indices: 2
  time_indices: 2
```



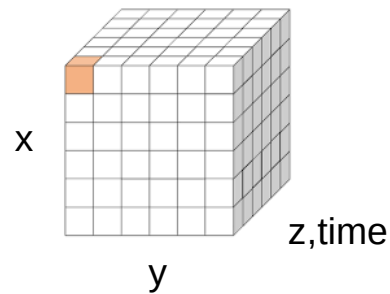
Can we maintain this?
1 coordinate per dimension
Length of axes == Rank

```
axes=[x, y, z]
axes=[x, y, time]
```

```
axes=[x, y, z]
axes=[x, x, z]
axes=[y, y, z]
axes=[y, x, z]
axes=[x, y, time]
axes=[x, x, time]
axes=[y, y, time]
axes=[y, x, time]
```

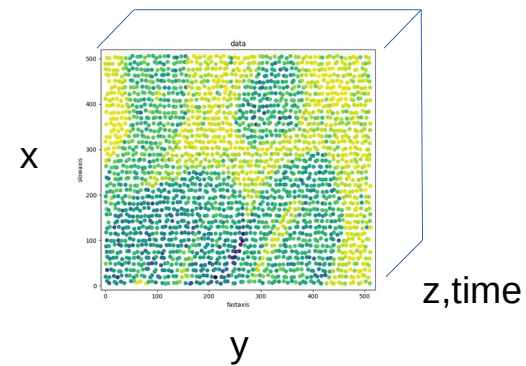
Regular grid
n coordinates per dimension

```
data:NXdata
  @signal="data"
  @axes={x,y,z,time}
  data: float[10,20,30]
  x: float[10]
  y: float[20]
  z: float[30]
  time: float[30]
  x_indices: 0
  y_indices: 1
  z_indices: 2
  time_indices: 2
```



Irregular grid
n coordinates per dimension

```
data:NXdata
  @signal="data"
  @axes={x,y,z,time}
  data: float[10,20,30]
  x: float[10,20]
  y: float[10,20]
  z: float[30]
  time: float[30]
  x_indices: 0,1
  y_indices: 0,1
  z_indices: 2
  time_indices: 2
```



- 1) Either all AXISNAME have AXISNAME_indices or none have
- 2) In the presence of AXISNAME_indices the @axes becomes an unordered set (in which case "." makes no sense). Otherwise it is an ordered list with length == rank