Low-level data containers

- Tabled question of whether to support both interleaved and separated data arrays
- Remove all references to xData
- Change attribute names 'size' and 'length' to be more meaningful
- Allow a list of xLinks?
- Attribute name 'start' has subtle differences in meaning
- Some folks don't like the term 'gridded'
- Do we need to have a container for functions with vector parameters?
    - Fausto and Dave B. both have examples
- Add a discussion point in the document regarding precision and significant digits
- For interpolation flags, e.g. 'lin,log' the question arose as to whether lin is X or Y
    - Add a table of strings and corresponding ENDF numbers (Table 12)
- Gridded element should allow for a Parent element to be Regions.
- David argues that uncertainties allows for distributions that are not mathematically defined for how to sample
- Morgan suggests that we separate the concepts of plotting uncertainties versus sampling uncertainties
- Young-Sik felt that uncertainties are complex and need to have a mathematically rigorous representation – otherwise it will be confusing
- Discussion point: CSV – support or not, what's the definition
- Style attribute/element matched intuitions, but question arose about interpretation in different contexts, e.g. uncertainties, energy depositions. Need some use cases.
    - Do you still need derivedFrom links?
- Should there be an attribution to define a default value?
- General-Purpose Nuclear Data Containers a better name for the document?
- 'shape' is confusing, how about 'dimension'?
- $x_0(\ldots)$ is confusing, f(…) more general
- Definition of triangular needs to be reconsidered. UpperTriangular and LowerTriangular have specific meanings. Symmetric is specific that $M = M^T$
- Should 'XYs' be changed to 'curve' and 'surface' with attributes that specify what type of mathematical curve
- Tables: different options needed.
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Particle Properties

- Should "anti" be prefix versus suffix

- Define whether metastable indices start with 0 or 1. Ground state alias needed?
- Why define a new convention for nuclei? Why not borrow an exiting one?
- Should 'likelihood' be part of an uncertainties container?
- Should 'likelihood' be mathematically defined?
- Discussion agreed that we should assign a unique id to particle groups as well as particles
- Use IUPAC defined names for elements
- Treat anti particles as separate particles rather than inheriting from each other

Top Level

- One backgroundReachtion should be a child for each resonance range
- General thinking that derivedReactons/Data should be with each Reaction, but that summed data may need to included elsewhere (e.g. energy release, gas production).
- Change the name of 'derivedReactions' currently child of evaluation element. summedReactions? InclusiveReactions? productionData?
    - Reactions
    - SummedReactions (derivedTransportData goes here)
    - ProductionReactions (includes things like DPA or not?)
    - OtherReactions (do we need this or not?)
- Bret will send examples of what goes into styles: essentially code information, tag names for codes used, input decks
- Add a high-level element for application-specific data? Attach a style flag?
- We need to consider how correlated data will be captured in the representation hierarchy and include a discussion about how it would be included, e.g. correlatedProducts. Should we include a provision for an event library, in-line HF code?
- Clarify that fission is mostly just another reaction

Other discussion

- Publication should be written – action is to talk to Pavel
- ND2016 – who will speak on behalf of SG38?
- Need style guide, starting with XML structure – Jeremy volunteered to do initial background work.
- Multiple dependent variables?

Mathematical descriptive terms for arrays

- Length: a measure for one dimensional objects. Typically a physical property, not a mathematical one.
- Cardinality: the total number of elements in the array. Example: a 3X2 array has a cardinality of 6. The term size is deprecated for use in this context and has a more specific meaning.
- Size refers to the lengths of the columns/rows of a rectangular array. Example: an array with m rows and n column has a size mXn.
- Interval: Concept for domain/range. Might be useful for specifying sub-arrays. Example, if a 1 d object is non-zero on the interval with endpoints index 10 and index 15 and has a size 20: 0 0 0 0 0 0 0 0 0 0 0 a b c d e 0 0 0 0 0 (with index notation starting with 1, not 0). The terms 'lower' and 'upper' tend to be used for endpoints