CLAIMS

1. A method of displaying multidimensional data relating to a plurality of objects comprising the steps of:

plotting, by a processor on a display device the parametric locations of the plurality of objects in m-dimensional parametric space on a first 2-dimensional display, wherein m is greater than 3; and

positioning a boundary over a subset of the parametric locations of the plurality of objects in the first 2-dimensional display on the display device.

2. The method of claim 1, further comprising the step of performing data analysis on the objects within the boundary.

3. The method of claim 2, wherein the step of performing data analysis comprises the step of plotting, by the processor on the display device the parametric locations of the objects corresponding to the subset of the parametric locations in the first 2-dimensional display in an n-dimensional space on a second 2-dimensional display.

4. The method of claim 1, further comprising the step of reading the multiparameter object data from a storage device.

5. The method of claim 1, further comprising the step of reading the multiparameter object data from an instrument.

6. The method of claim 3, further comprising the step of translating the origin of the second 2-dimensional display.

7. The method of claim 3, further comprising the step of reorienting the axes of the second 2-dimensional display.

8. The method of claim 1, further comprising the step of storing the multiparameter object data corresponding to the subset of the parametric locations in the first 2-dimensional display to a storage device.

9. The method of claim 2, wherein the step of performing data analysis further comprises the step of calculating statistics on the multiparameter object data corresponding to the subset of the parametric locations in the first 2-dimensional display.

10. The method of claim 2, wherein the step of performing data analysis comprises the step of calculating object parametric data from object measured data.

11. A system of displaying multidimensional data relating to a plurality of objects, the system comprising:

a display device;

a user input device; and

a processor, in communication with the display device and the user input device, the processor configured to plot on the display device the parametric locations of the plurality of objects in m-dimensional parametric space on a first 2-dimensional display, wherein m is greater than 3,

wherein the processor is further configured to position a boundary over a subset of the parametric locations of the plurality of objects in the first 2-dimensional display on the display device to select those parametric locations within the boundary.

~~12. The system of claim 11, wherein the processor is configured to position a boundary over a subset of the parametric locations of the plurality of objects in the first 2-dimensional display on the display device selects those parametric locations within the boundary~~.

~~13~~12. The system of claim ~~12~~11, wherein the processor is configured to plot on the display device the parametric locations of the objects corresponding to the subset of the parametric locations in the first 2-dimensional display in an n-dimensional space on a second 2-dimensional display.

~~14~~13. The system of claim 11, further comprising a data storage device in communication with the processor and from which object data is read by the processor.

~~15~~14. The system of claim 11, further comprising a second display device is configured to display the second 2-dimensional display.

~~16~~15. The system of claim ~~12~~11, wherein the processor is configured to perform data analysis on objects within the boundary.

~~17. A method for displaying multidimensional data from a plurality of objects comprising the steps of:~~

~~for each object having multidimensional data, generating, using a processor, a location in m-dimensional parameter space;~~

~~transforming, using a processor, a location in n≤m -dimensional parameter space for each object;~~

~~plotting, on a display device, an n-dimensional location for each object in m-dimensional parameter space onto a first 2-dimensional geometric display space;~~

~~defining, on the display device, a closed boundary in the first 2-dimensional geometric display space;~~

~~positioning, on the display device, the closed boundary over a subset of the parametric locations of the objects in the first 2-dimensional geometric display space;~~

~~transforming, by the processor, a location in p≤m -dimensional parameter space for each object whose parameters are within the closed boundary; and~~

~~plotting, on a second display device, in a second 2-dimensional display space the p-dimensional location for each object within the boundary in the first 2-dimensional geometric display space.~~

~~18. The method of claim 17, further comprising the step of reading, by the processor from a data storage device, multidimensional data from the plurality of objects.~~

~~19. The method of claim 17, wherein the second display device and the first display device are the same display device.~~

~~20. The method of claim 17, further comprising the step of selecting the shape of the closed boundary.~~

21. A method for displaying multidimensional data from a plurality of objects, the method comprising the steps of:

for each object having multidimensional data, and for each event associated with each object, and for each dimension to be displayed,

transforming, using a processor, an event location in m -dimensional parameter space for each object using the algorithmic relationships: X = X + (eventValue * COS (axisAngle) * axisRadius) and Y = Y +(eventValue * SIN (axisAngle) * axisRadius), wherein eventValue is the numerical value of the event, axisRadius is the length of the axis and axisAngle is the angle of the axis in the display; and

defining, on the display device, a closed boundary in a first 2-dimensional geometric display space;

positioning, on the display device, the closed boundary over a subset of the parametric locations of the objects in the first 2-dimensional geometric display space;

determining if the transformed event location is within the closed boundary; and

determining if the transformed event location is within the closed boundary flag the event.