



Contribution ID: 178

Type: Poster

Visualization of multidimensional histograms using hypervolume techniques

Visualization is one of the most powerful and direct ways how the huge amount of information contained in multidimensional histograms can be conveyed in a form comprehensible to a human eye. With increasing dimensionality of histograms (nuclear spectra) the requirements in developing of multidimensional scalar visualization techniques become striking. In the contribution we present a hypervolume visualisation techniques that provide simple and fully explanatory images that give comprehensive insights into the global structure of scalar fields of any dimension. The presented method provides a dimension independent viewing system which scales nicely with the geometric dimension of the dataset. On the other hand the algorithm allows one to localize and scan interesting parts (peaks) in multidimensional histograms. It also permits to find correlations in the data, mainly among neighboring points in all dimensions, and thus to discover prevailing trends around multidimensional peaks using classical approaches like slicing and animation of slices of multidimensional data.

Primary author: MORHAC, Miroslav (Institute of Physics, Slovak Academy of Sciences)

Co-authors: Dr TURZO, Ivan (Institute of Physics, Slovak Academy of Sciences); Dr MATOUSEK, Vladislav (Institute of Physics, Slovak Academy of Sciences)

Presenter: MORHAC, Miroslav (Institute of Physics, Slovak Academy of Sciences)

Track Classification: 2. Data Analysis