Visualization of data has a long history. The process converts data into a form which is easier to comprehend: something our eyes can see. Sight is one of our best-developed senses, therefore this process can provide a result which gives us faster and easier insight in a complex world. Visualization is, in mathematical terms, a conversion of n-dimensional data to k-dimensional data, where k is 2 or 3. The 2D visualization is displayed directly on a screen, but 3D visualizations are difficult to display on a 2D screen and are sometimes displayed using 3D glasses, which can give a sense of depth. The creation of data sets has grown at an unprecedented rate, and we are interested in undererstanding how to construct a dataflow allowing to distribute the components in an efficient and easy-to-use way.

A visualization framework can be seen as a solution to a specialized data flow problem. Spiegel (Spiegel is the German word for mirror) is a visualization program in Spiegel is constructed out of small, simple components which communicate with each other. We are interested in understanding how to construct a dataflow to distribute these components in an efficient and easy-to-use way.

Projects and Collaborations:

- The Ligo Scientific Collaboration (LSC) is a well-organized collaboration of approximately 760 scientists worldwide who have joined together in the search for gravitational waves from the most violent events in the universe, such as the merger of black holes and neutron stars, the explosion of supernovae and the Big Bang.
- CCF-0851743

Contact: Hans-Peter Bischof. Working in this area are several graduate and undergraduate students.