

Scatter Plot-Based Color Map for Multivariate Data Visualization and its Application to Geofluid Simulation Data

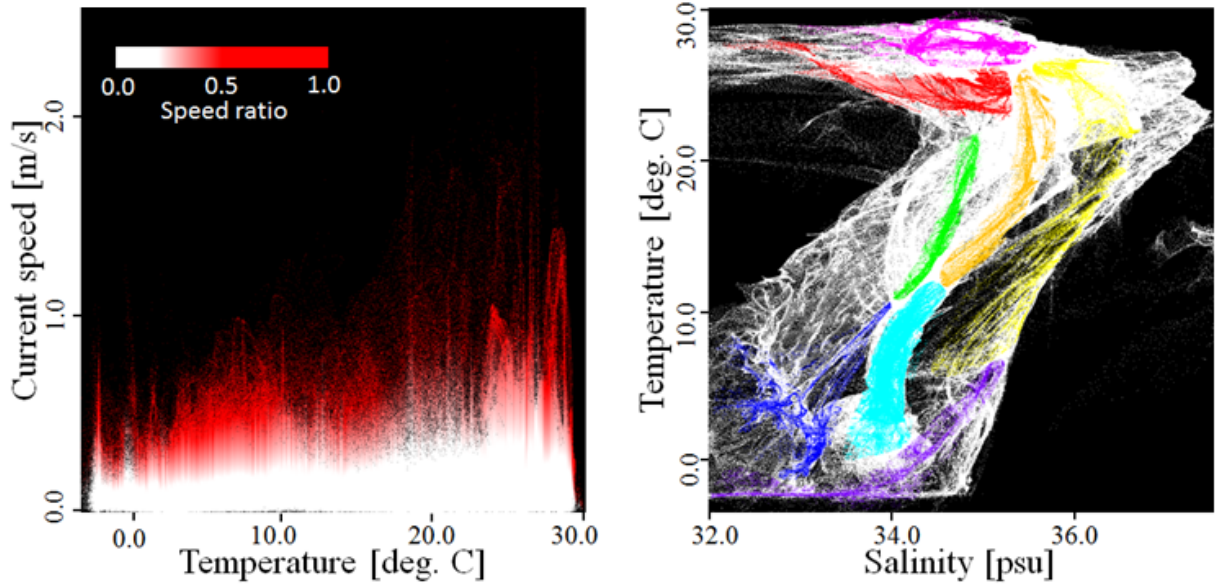
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To understand simulation data from the perspective of multivariable is important in numerical simulation study. This study proposes a new multi-dimensional color map which enables users to extract and visualize characteristic feature with their empirical and intuitive judgment. In the proposed method, data points which represent characteristic feature are selected in a couple of 2-dimensional scatter plots. Extracted data in each 2-variable space are assigned to different color components such as hue, saturation and/or brightness, respectively, in order to classify and specify the characteristic features from multivariate data. We applied the method to high-resolution geofluids simulation data with advices of domain specialists. As a result of case studies, characteristic structures such as ocean currents, eddies and clouds are intuitively extracted and clearly represented with their physical properties. In this presentation, we explain the proposed method in detail and demonstrate the way to use for actual application.

Keywords: Feature extraction, Visualization

Color map



Visualization result

