Color Tunneling

Interactive Exploration and Selection in Volumetric Datasets

ENAC - Ecole Nationale de l’Aviation Civile
Toulouse, France
How to foster innovation?

• Must have application domain expertise
• Be close to the users
• Be close to research units

ColorTunneling is one example
How to deal with large data set visualization and data occlusion?

Method

We provide a set of real-time multi-dimensional data deformation techniques that aim to help users to easily select, analyze, and eliminate spatial-and-data patterns.

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Color Tunneling: Interactive Exploration and Selection in Volumetric Datasets.

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Design rational

- Real-time multi-dimensional data deformation techniques.
- Animation between view configurations semantic filtering and view deformation.
- Any data subset can be selected at any step along the animation.

Implementation with pixel based interaction technique (GPGPU)
Use case
CT scan exploration
Security scan

• Instance of usage
Perspectives

Training: ENAC, Aeronautical training school with current 2D tools, in the future 3D tools.

Academic: Scientific validation of interactive tools to support volumetric data exploration, future usages with luggage scan.

Industry: Mutualize effort to support efficient luggage analysis.