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GASTVORTRAG

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“Cost-effective Feature Enhancement for Volume Datasets ”

Abstract:

Volume models often show high complexity. Local details and overall shape may sometimes be difficult to perceive. Unsharp masking techniques improve the perception of those small features by increasing the local contrast. In this paper we present a simple and fast method for feature enhancement based on 3D mipmaps. In contrast to other approaches, in addition to increasing luminance on the feature details, we also darken the valleys of the volume thus increasing local contrast and making neighboring details more visible. Our approach is fast and simple, with small memory requirements thanks to the use of 3D mipmaps. We also propose a color selection strategy, based on harmonic colors, that further enhances the salient features without abrupt or uncomfortable color changes.

Biography:

Jose Díaz graduated in computer science and received the MS (Master in Computing) in 2007 from the Universitat Politècnica de Catalunya, Spain. Since then, he has been a PhD student of the MOVING research group (UPC) in the field of volume visualization. He is supported by an FPI grant of the Spanish Ministry of Science and Innovation. His research interests include illustrative visualization and virtual reality applied to medical and scientific visualization.

Datum: 5. November 2010 10:30 Uhr s.t.

Ort: TU Wien, Favoritenstr. 9, Stiege 1, 5. Stock, Seminarraum E186

