

Wright State University

## CORE Scholar

---

Computer Science and Engineering Faculty  
Publications

Computer Science & Engineering

---

4-23-2004

### Detection of Closed Hyperstreamlines

Thomas Wischgoll

Wright State University - Main Campus, [thomas.wischgoll@wright.edu](mailto:thomas.wischgoll@wright.edu)

Follow this and additional works at: <https://corescholar.libraries.wright.edu/cse>



Part of the [Computer Sciences Commons](#), and the [Engineering Commons](#)

---

#### Repository Citation

Wischgoll, T. (2004). Detection of Closed Hyperstreamlines. .  
<https://corescholar.libraries.wright.edu/cse/366>

This Abstract is brought to you for free and open access by Wright State University's CORE Scholar. It has been accepted for inclusion in Computer Science and Engineering Faculty Publications by an authorized administrator of CORE Scholar. For more information, please contact [library-corescholar@wright.edu](mailto:library-corescholar@wright.edu).

## Dr. Thomas Wischgoll

(University of California at Irvine)

### "Detection of Closed Hyperstreamlines"

The analysis and visualization of tensor fields is a central problem in visualization. Topology based methods based on investigating the eigenvector fields of second order tensor fields have gained increasing interest in recent years. In this talk, a method for detecting closed hyperstreamlines in tensor fields as a topological feature will be presented. It is based on a special treatment of cases where a hyperstreamline reenters a cell to prevent infinite cycling during hyperstreamline calculation. The algorithm checks for possible exits of a loop of crossed edges and detects structurally stable closed hyperstreamlines. These global features are not detected by conventional topology and feature detection algorithms used for the visualization of second order tensor fields.

**Zeit:** Freitag, 23.04.2004, 16.15 Uhr

**Ort:** Gebäude 36, Raum 232

---