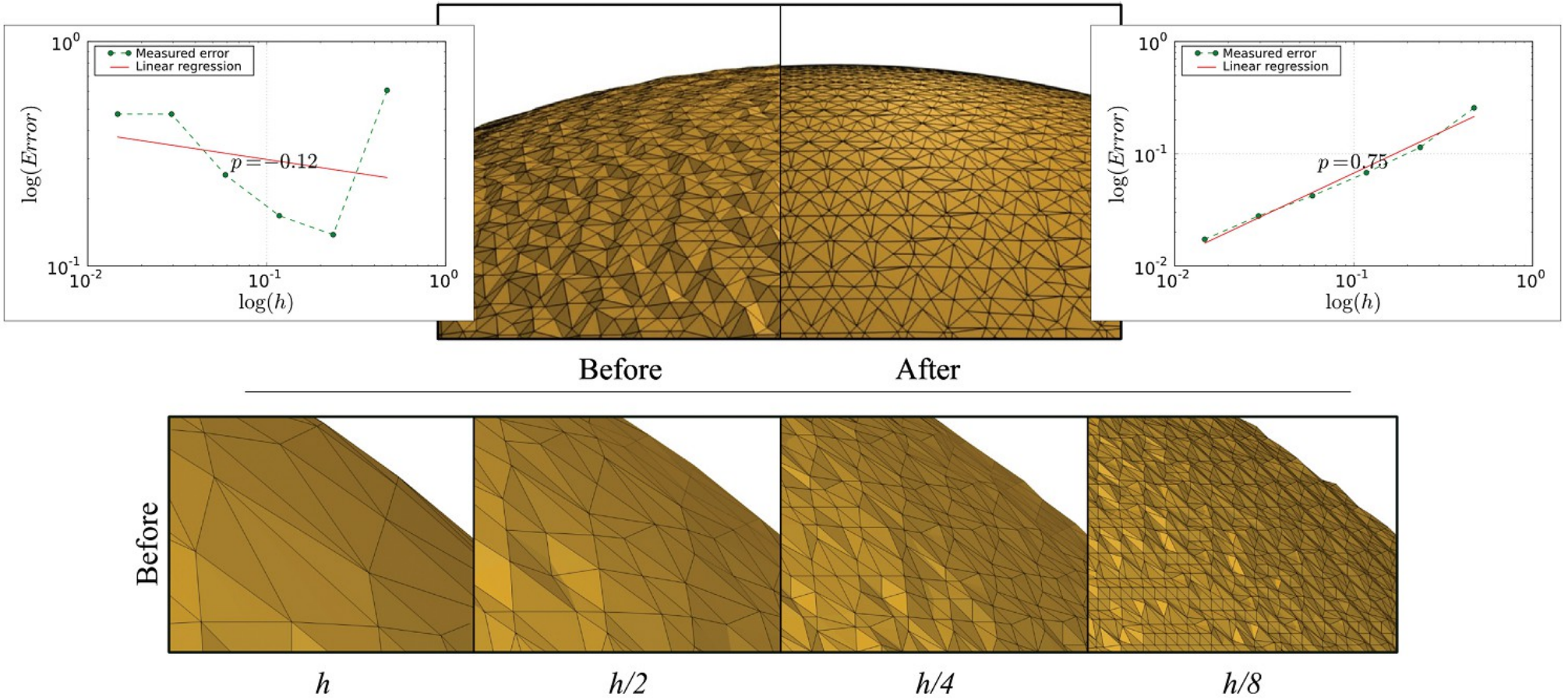
Welcome to EuroRVVV 2012

1st EuroVis Workshop on Reproducibility, Verification, and Validation in Visualization

My Light Bulb Moment



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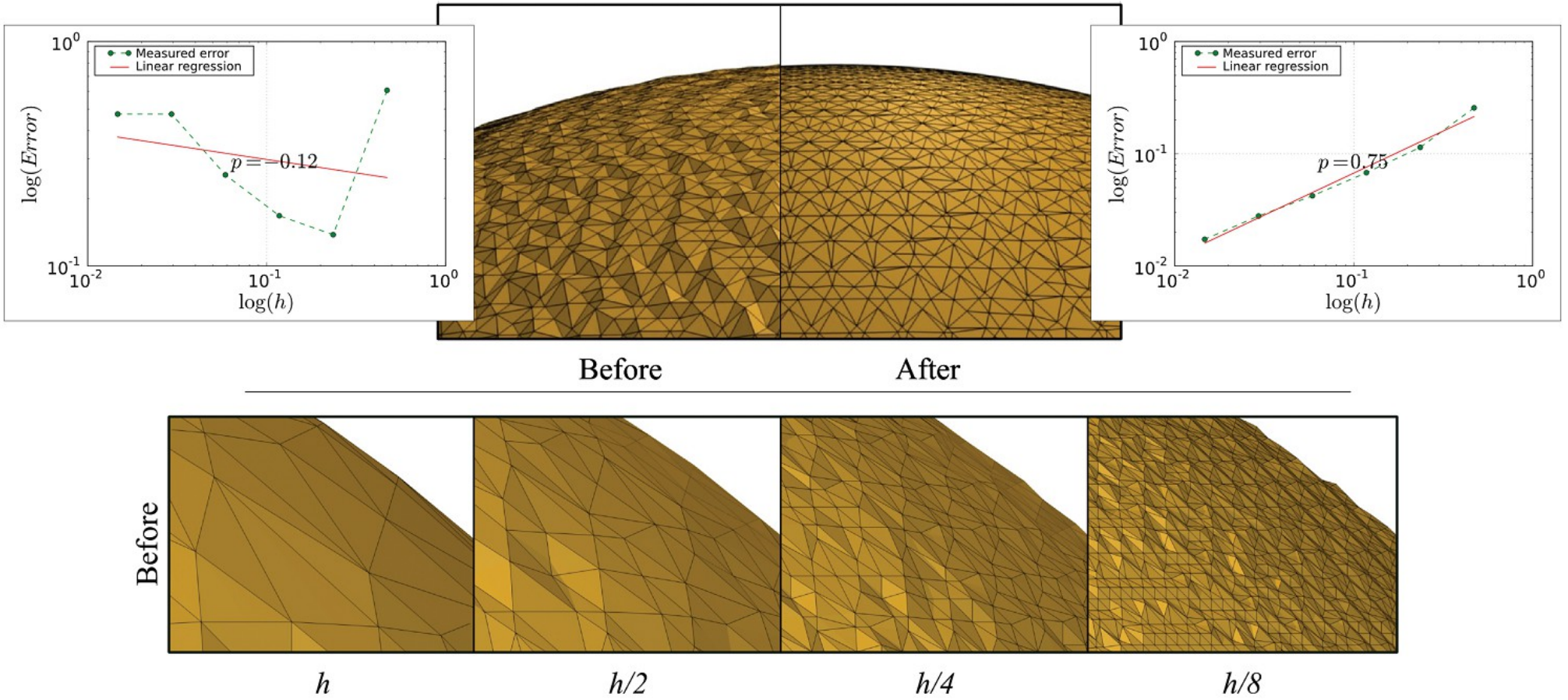
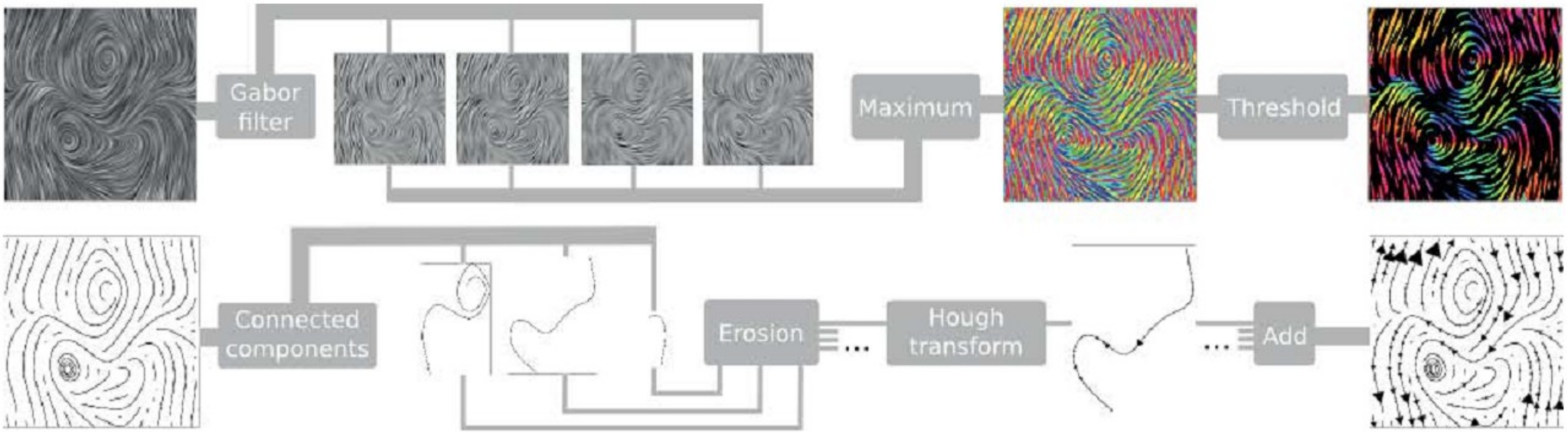


- „Verifiable Visualization for Isosurface Extraction“, Etiene, Scheidegger, Nonato, Kirby, Silva
- bug fixing in visualization through systematic visualization

At a Second Glance



- „Visual Reconstructability as a Quality Metric for Flow Visualization“, Jänicke, Weidner, Chung, Laramee, Townsend, Chen
- reconstruction of vector field from different visualizations
- value of results heavily depends on quality of reconstruction mechanism
- good start, but theoretical psychology still in its infancy

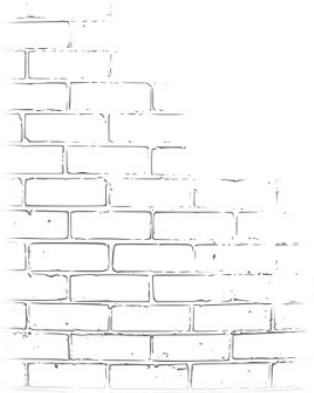
VisWeek 2011

- Panel „Verification in Visualization: Building a Common Culture“
- Robert M. Kirby, Claudio T. Silva, Robert S. Laramee, William Schroeder
  - lively discussion
  - importance of validation and verification growing
  - better reproducibility needed
- formation of a task force to really do something
- gather opinions of community already at VisWeek
- determine comprehensive overview
  - related work
  - challenges
  - possible ways to go
  - survey current culture

Papers Survey

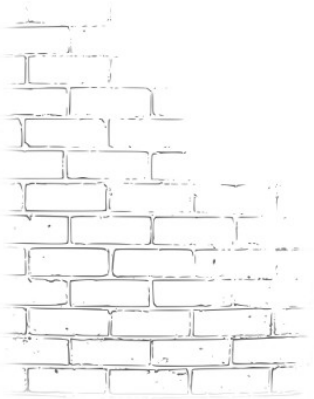
- check the current state of RVVV in community
- gone through Vis, InfoVis, EuroVis papers of 2010 & 2011
- no paper without any verification of presented method
- 2/3 papers good reproducibility (<5% not applicable)
- <20% provide program, <10% provide code
- ~10% deal with verification of visualization algorithms
- ~10% use visualization for validation of theoretical models, mainly outside visualization

- → worth a workshop about …



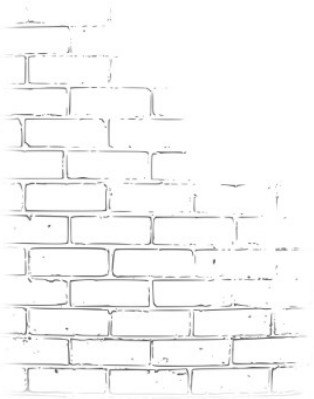
Reproducibility

- check a proposed visualization approach for reproducibility
  - Are all parameters given for the results?
  - Are parameter bounds discussed?
  - Are all implementation details given?
  - Is used framework/software/libraries available?
  - Is used hardware given and available?
  - Are at least the presented test data sets available?
  - …



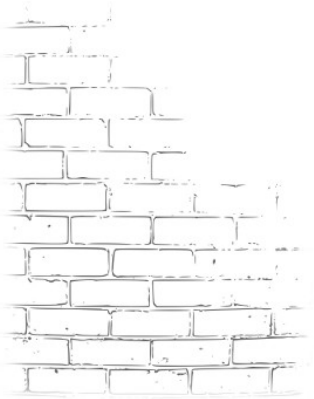
Verification

- verification of the implementation of a visualization approach
  - Is interpretation/reading of data correct?
  - Is transfer into meta-information and data structures correct?
  - Does algorithm/paradigm really extract desired features?
  - Do extracted features really exhibit desired properties?
  - Is implementation of algorithm correct?
  - …



Validation

- validation of the visualization model
  - Is the visualization method suited for representing the data?
  - Is the visualization method suited for answering the expert questions?
  - Are colors/paradigms/shapes misleading?
  - Is the visualization subjective?
  - Is the method providing a good overall insight into the data?
  - Is the method providing the tools only to answer one specific question?
  - Is the method following taking users and specific needs into account?
  - …



Program

- 9:10-10:20 Talks
  - Robert Kosara
    Managing Uncertainty in Visualization
  - Heike Leitte
    Visual Correctness or “How do we measure the quality of a visualization?”
  - Nicholas Müller
    Cognitive Visual Interpretation – An Outside Look
- 10:45-12:15 Panel „Reproducibility in Visualization“
  - Britta Weber
  - Rosane Minghim
  - Helmut Doleisch
  - Min Chen