Digital surfaces in DGtal
Topology module (since 0.5)

Jacques-Olivier Lachaud

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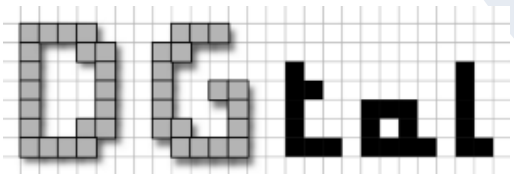
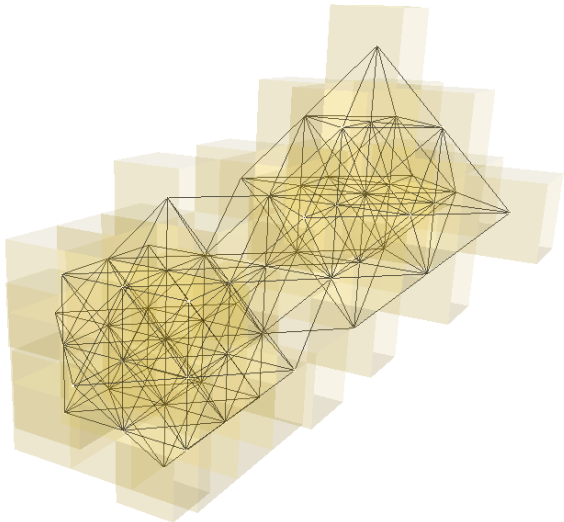


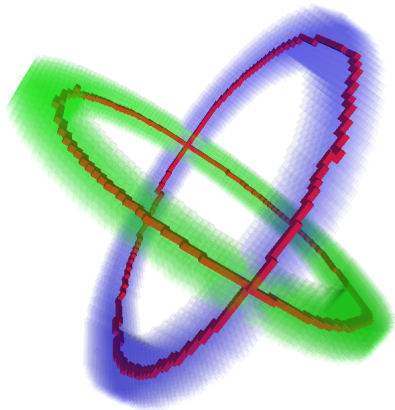
UMR 5127

Available in DGtal 0.5

1. classical digital topology
   - Arbitrary adjacencies in $\mathbb{Z}^n$, but also in subdomains
   - Digital topology = couple of adjacencies (Rosenfeld)
   - Object = Topology + Set
   - Operations : neighborhoods, border, connectedness and connected components, decomposition into digital layers, simple points



Adjacencies



thinning in (6,26)

Available in DGtal 0.5

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2. cubical cellular topology
   - cells, adjacent and incident cells, faces and cofaces
   - signed cells, signed incidence,

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   - signed cells, signed incidence,
3. digital surface topology
   - surfels, surfel adjacency, surfel neighborhood
   - surface tracking (normal, fast), contour tracking in nD

Package description

Should contain

- classical digital topology $\tilde{A}$ *la* Rosenfeld
- cartesian cellular topology
- digital surface topology $\tilde{A}$ *la* Herman
- must be the base block of geometric algorithms

Examples

- adjacencies, connected components, simple points, thinning
- cells, boundary operators, incidence, opening, closing
- contours, surfel adjacency, surface tracking
- topological invariants

Location

- `{DGtal}/src/DGtal/topology`
- `{DGtal}/src/DGtal/helpers`
- `{DGtal}/tests/topology`