Geometric Registration for Deformable Shapes

1.3 4D Kinematic Surfaces

31st Annual Conference of the European Association for Computer Graphics

euro <mark>graphics 2010</mark>

Rigid Transformation

(R,t)?P

 $p \rightarrow Rp + t$

 $R^T R = I$

Scanning (Moving) Objects



Time Ordered Scans



Time Ordered Scans



$$\widetilde{P}^{j} \equiv \{\widetilde{\mathbf{p}}_{i}^{j}\} := \{(\mathbf{p}_{i}^{j}, t^{j}), \mathbf{p}_{i}^{j} \in \mathbb{R}^{d}, t^{j} \in \mathbb{R}\}$$

Space-time Surface



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Space-time registration \rightarrow kinematic surface estimation

