Adaptive Sky

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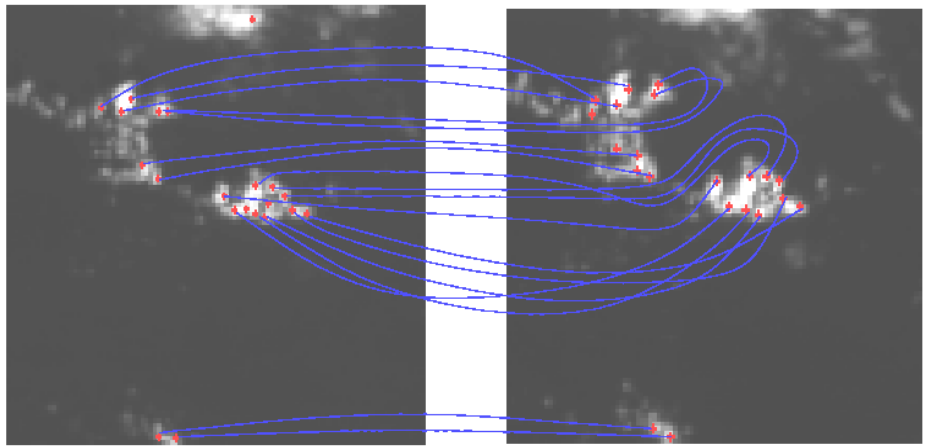
Objectives

- Robust feature-correspondence capability
  - Connect observations by one instrument at time t with observations of another instrument at time t'.
- Implement in well-tested, well-documented C-language toolbox analogous to LINPACK or Numerical Recipes library.
- Cloud Science Sensor Web simulation, in which multiple instruments work together to monitor clouds over time using building blocks from the toolbox.



Reacquisition of a previously seen cloud element.

Approach

- Factor Common Subproblems
  - Define and locate features
  - Characterize features with attributes, e.g. SIFT
  - Parameterize allowed geometric distortions
  - Match features according to objective function
  - Derive transformation from correspondences
  - Verify/grade result
- Factor Domain-specific Elements

Co-Is/Partners

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Key Milestones

• Identify and acquire datasets.	03/06
• Identify algorithm suite.	03/06
• Matlab toolbox and validation tests	06/06
• Validated C language toolbox	09/06
• Adaptive Sky Cloud Science Demo	12/06
• Final Report	12/06

TRL_{in} = 3