CO Surveys of the Milky Way

Lessons learned from 10 years of AST/RO (1996-2006)

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CO mapping at AST/RO

- 1.8m offset-Gregorian telescope
- CO Rxs:
  - 230 GHz CO/13CO/C18O 2-1
  - 460 GHz CO 4-3
  - 800 Ghz CO 7-6
- beam-switching or position-switching (with reference-sharing)
- square-degree maps feasible

CO mapping at AST/RO

- Galactic Centre Survey
  - Inner 3 degrees; Martin et al 2004
  - Clump 1 and 2; Martin et al, submitted
- Lupus, Chamaeleon; Tothill et al, in prep.
- Coalsack; Walsh et al, in prep.
- rho Oph; Kulesa et al, 2005
- CrA, Carina...

Lessons learned

- Large overlap between neighbouring maps in a mosaic is a good thing
- Need people to reduce, analyse, publish data
  - People directly involved
  - User community
- AST/RO had too few people itself, and too small a user community

Requirements for CO Survey

- Reduce workload on people - standardisation
- Enthuse a large user community - give people what they want
- These are not necessarily compatible

A Modest Proposal

- Tony Stark's idea for future AST/RO surveys:
  - Standard survey map tile: defined size, transitions, depth, data quality, position (?)...
    - Users can propose for specific 'tiles' to be taken at higher priority
- Users get the data they want to publish
- The survey gets data that are easily incorporated