The Nature of Gas and SF Tracers in Spiral Arm Studies  
-A Case Study in M51-  
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Goal: Determine the cause of a discrepancy between previous gas and star formation offset measurements  
• Two measurement techniques: manual peak tracing method and an automated cross-correlation method  
• Compare four different tracers  
  • Gas: HI & CO  
  • Star formation: 24μm & Hα