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# Propositions

belonging to the thesis

## Small scale kinematics of massive star-forming cores

1.  $C^{17}O$  and  $C^{34}S$  submillimeter lines are good tracers of turbulence in massive star-forming cores, whereas  $CH_3CN$  is a good molecule to hunt for rotating structures around forming massive stars.  
*(Chapter 2)*
2. The proto-Trapezium cluster W3 IRS5 provides an excellent testbed for theories of massive star formation.  
*(Chapter 3)*
3. Hot core molecules betray which component in a complex star-forming region currently forms massive stars.  
*(Chapters 3 and 5)*
4. Late O-type stars can form through disk accretion like Solar-type stars.  
*(Chapter 4)*
5. Feedback and magnetic fields can regulate the kinematics of circumstellar matter around young forming massive stars.  
*(Chapters 4 and 5)*
6. Good ground-based submillimeter observations require the right amount of sunlight, oxygen, and water.
7. ALMA provides answers, followed by questions.
8. Low-mass star formation sets out the path for high-mass star formation.
9. Massive stars influence the development of life around Sun-like stars.
10. Smart computers make users lazy.
11. Breaking degeneracies of models requires both logic and imagination.
12. Finding a balance between quality and quantity is an art.

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Leiden, December 10, 2013