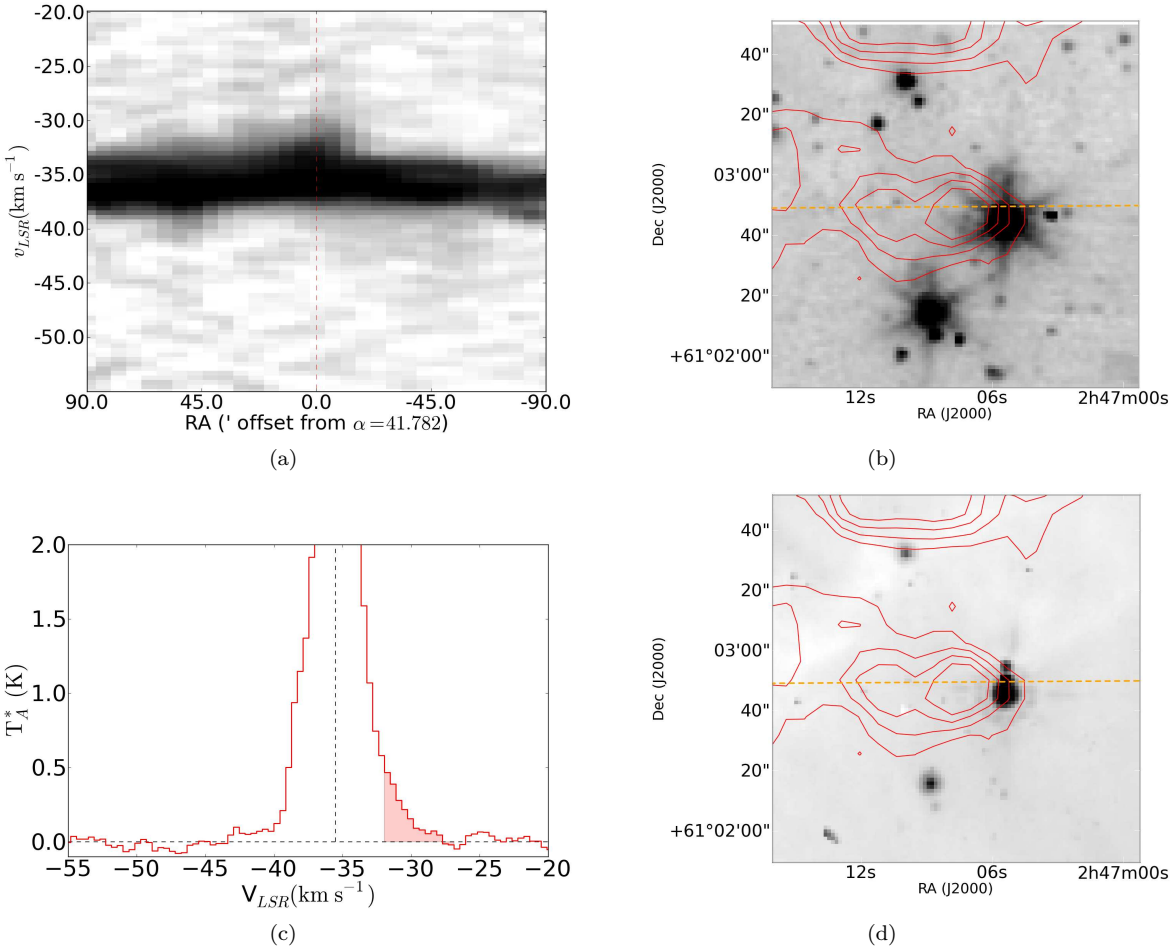


Figure 1. Position-velocity diagrams, spectra, and contour overlays of Outflow 3. No blue counterpart to this flow was identified, although it is possible that the blue lobe in Outflow 4 is actually associated with this source.

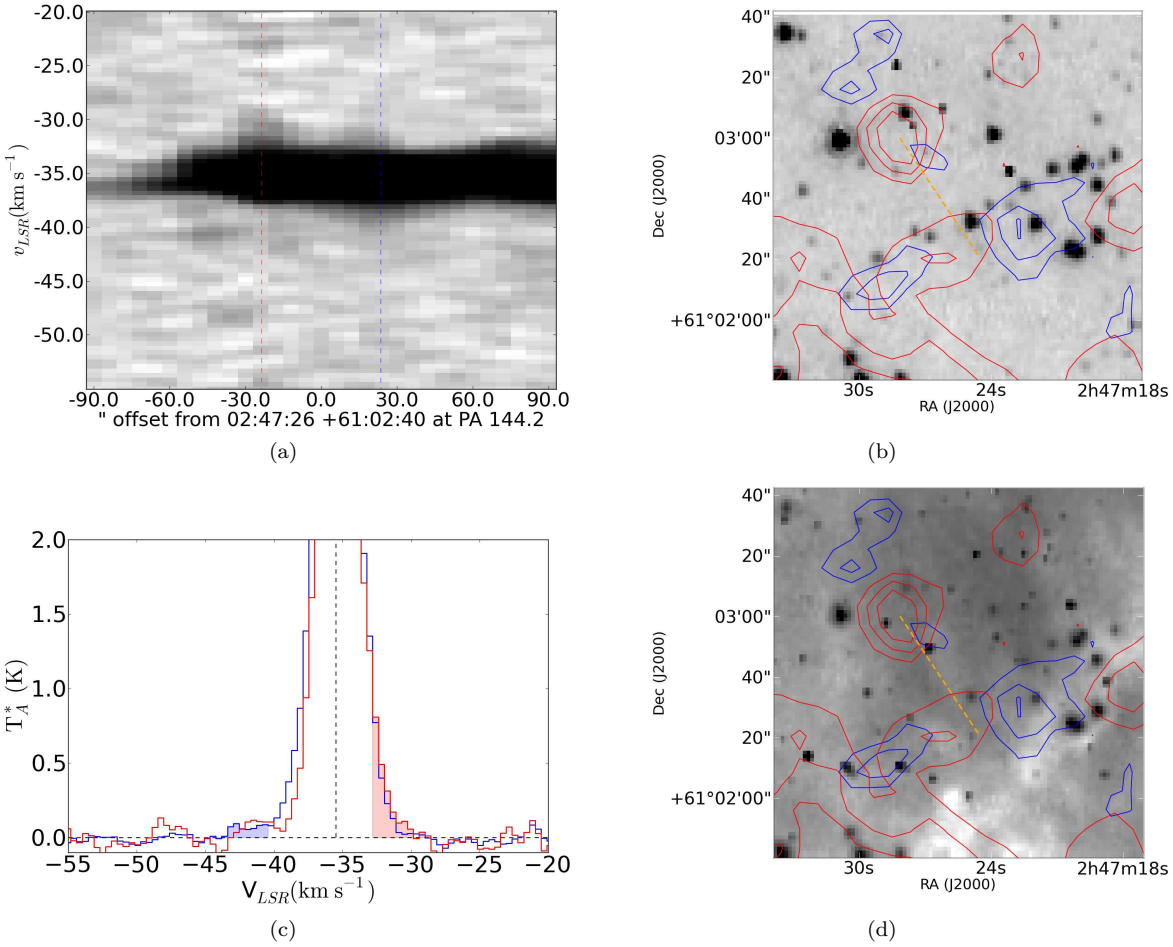


Figure 2. Position-velocity diagrams, spectra, and contour overlays of Outflow 4. While the red outflow is prominent and clear in the contours, the blue outflow is faint and somewhat spread out. This outflow pair is somewhat confused with outflows 3 and 5, which all seem to come from a cluster. Contours are shown at levels 0.5,0.75,1,1.5,2,3,4,5,6 K km s^{-1} (blue) and 1,1.5,2,3,4,5,6 K km s^{-1} (red).

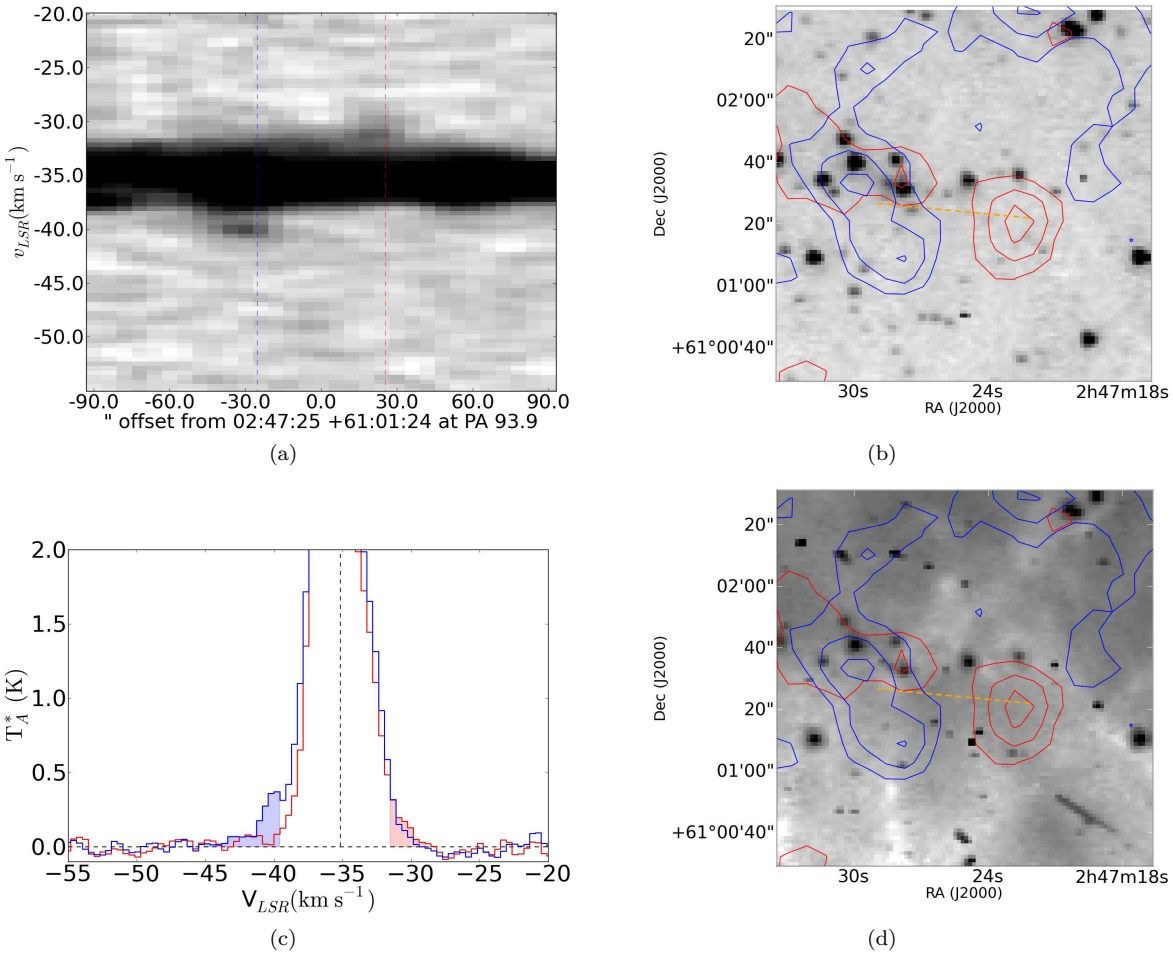


Figure 3. Position-velocity diagrams, spectra, and contour overlays of Outflow 5. The bipolar identification may be confused with Outflow 4.

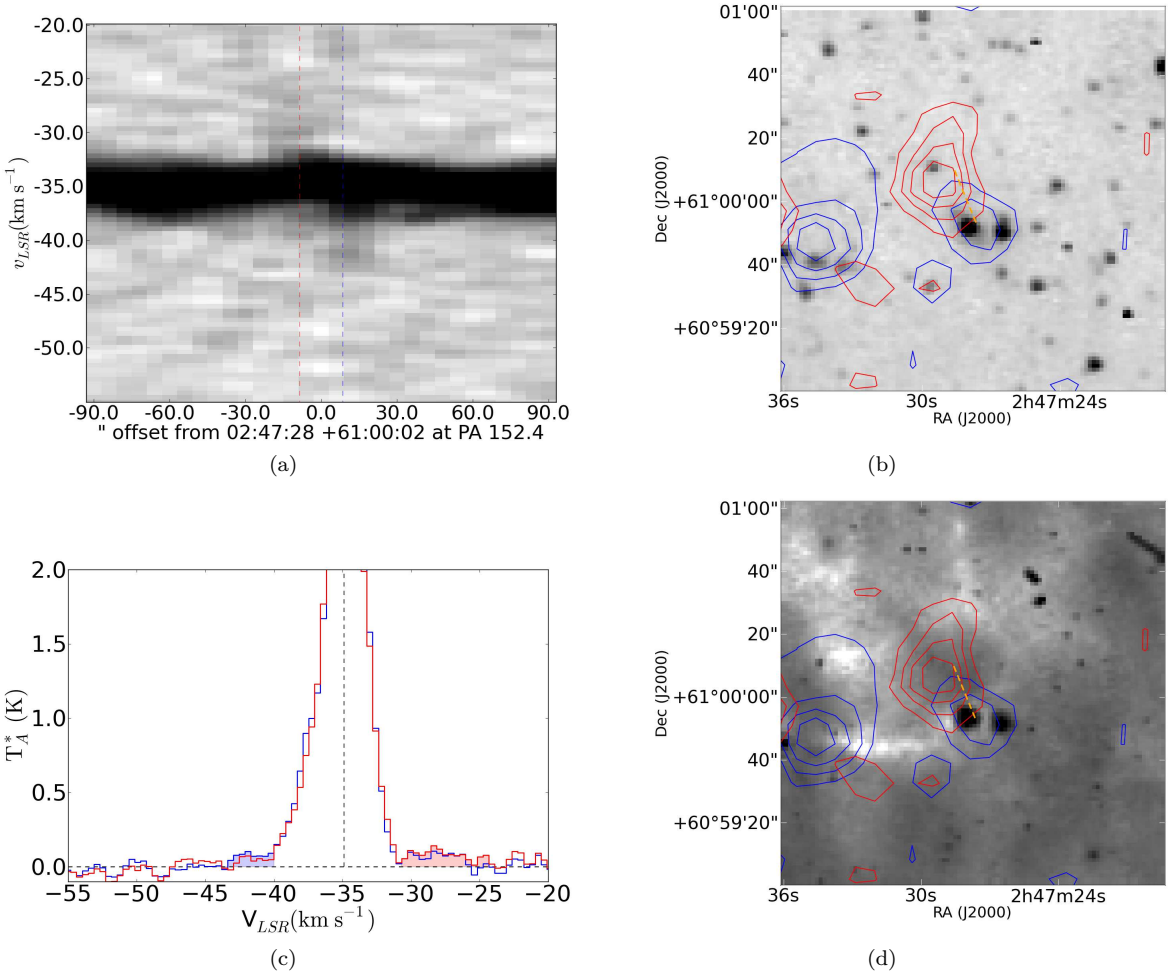


Figure 4. Position-velocity diagrams, spectra, and contour overlays of Outflow 6. The outflow pair is relatively isolated and therefore is considered a reliable bipolar identification.

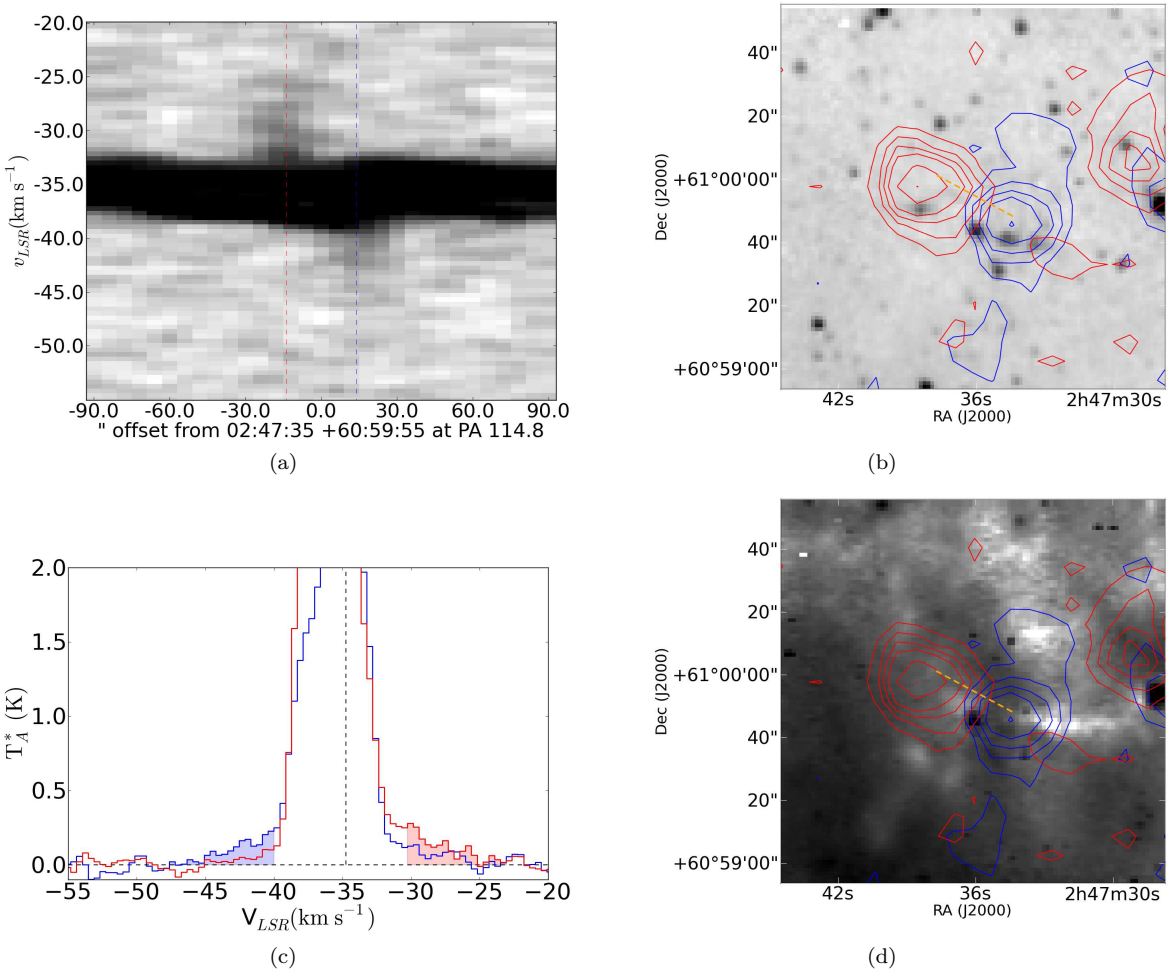


Figure 5. Position-velocity diagrams, spectra, and contour overlays of Outflow 7. The outflow pair is relatively isolated and therefore is considered a reliable bipolar identification.

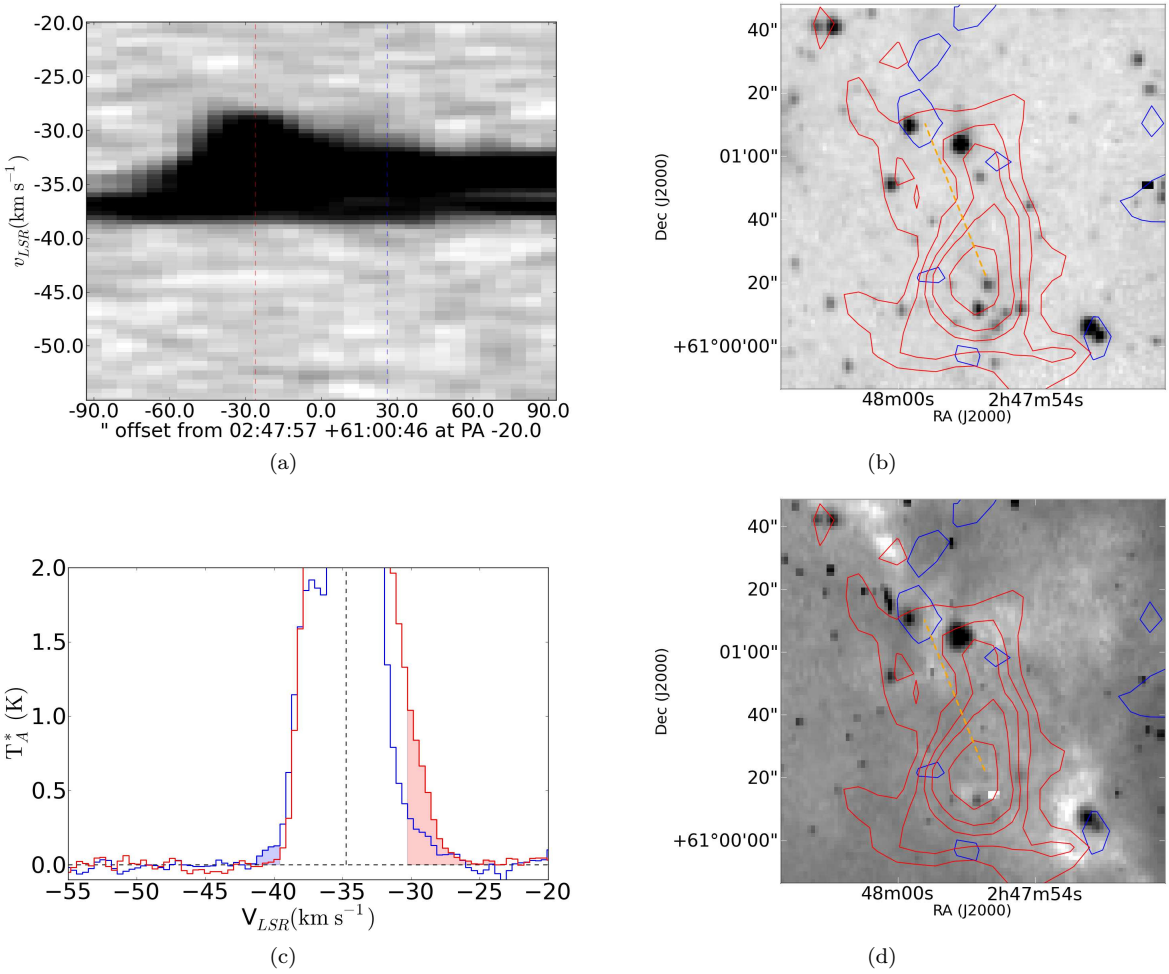


Figure 6. Position-velocity diagrams, spectra, and contour overlays of Outflow 8. While a red high-velocity line wing is quite clear, it is not obvious whether the tail is truly distinct from the molecular cloud. The blue line wing is more easily separated from the cloud, but is very faint. The reliability of the detection is reinforced by the faint 4.5μm wisp seen near the source at 2:47:57 +61:01:04, which is suggestive of an H_2 outflow (**?**). Contours are displayed at levels 0.25,0.5,1,1.5,2,3,4,5,6 K km s^{-1} (blue) and 0.5,1,1.5,2,3,4,5,6 K km s^{-1} (red).

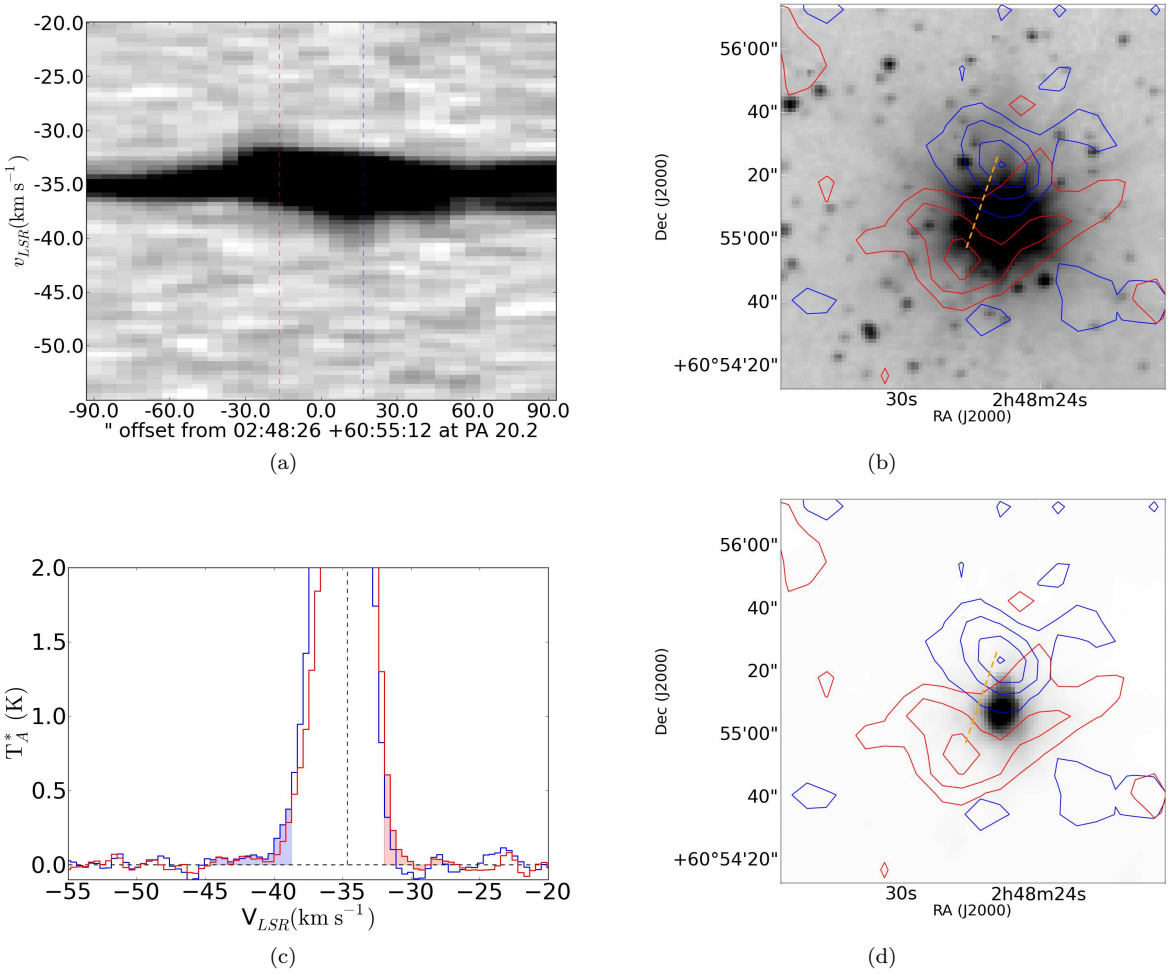


Figure 7. Position-velocity diagrams, spectra, and contour overlays of Outflow 9. The outflow pair is isolated and therefore is considered a reliable bipolar identification.

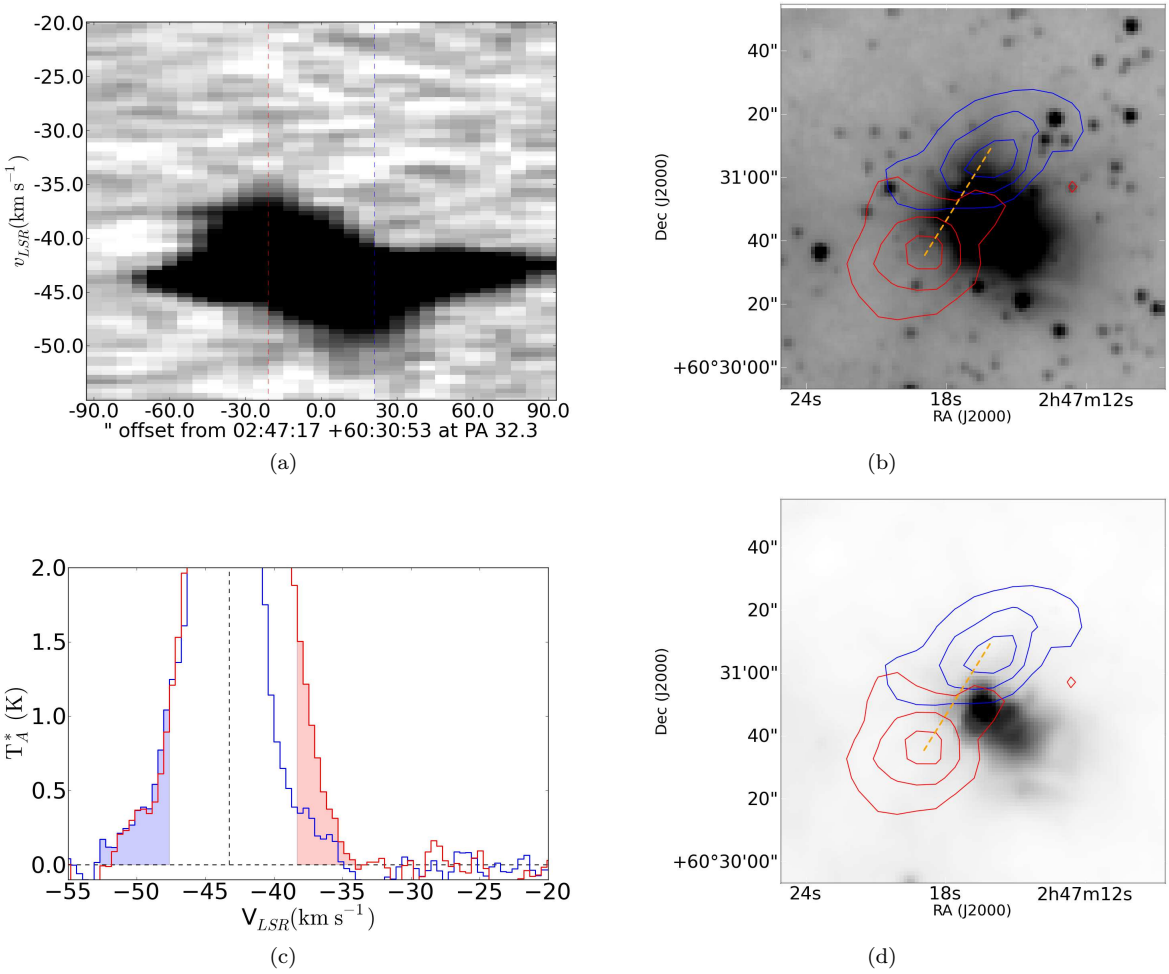


Figure 8. Position-velocity diagrams, spectra, and contour overlays of Outflow 10. This flow is isolated and bright, but has somewhat low-velocity wings, suggesting that it may have a low inclination angle. Contours are displayed at levels 2,4,6 K km s^{-1}.

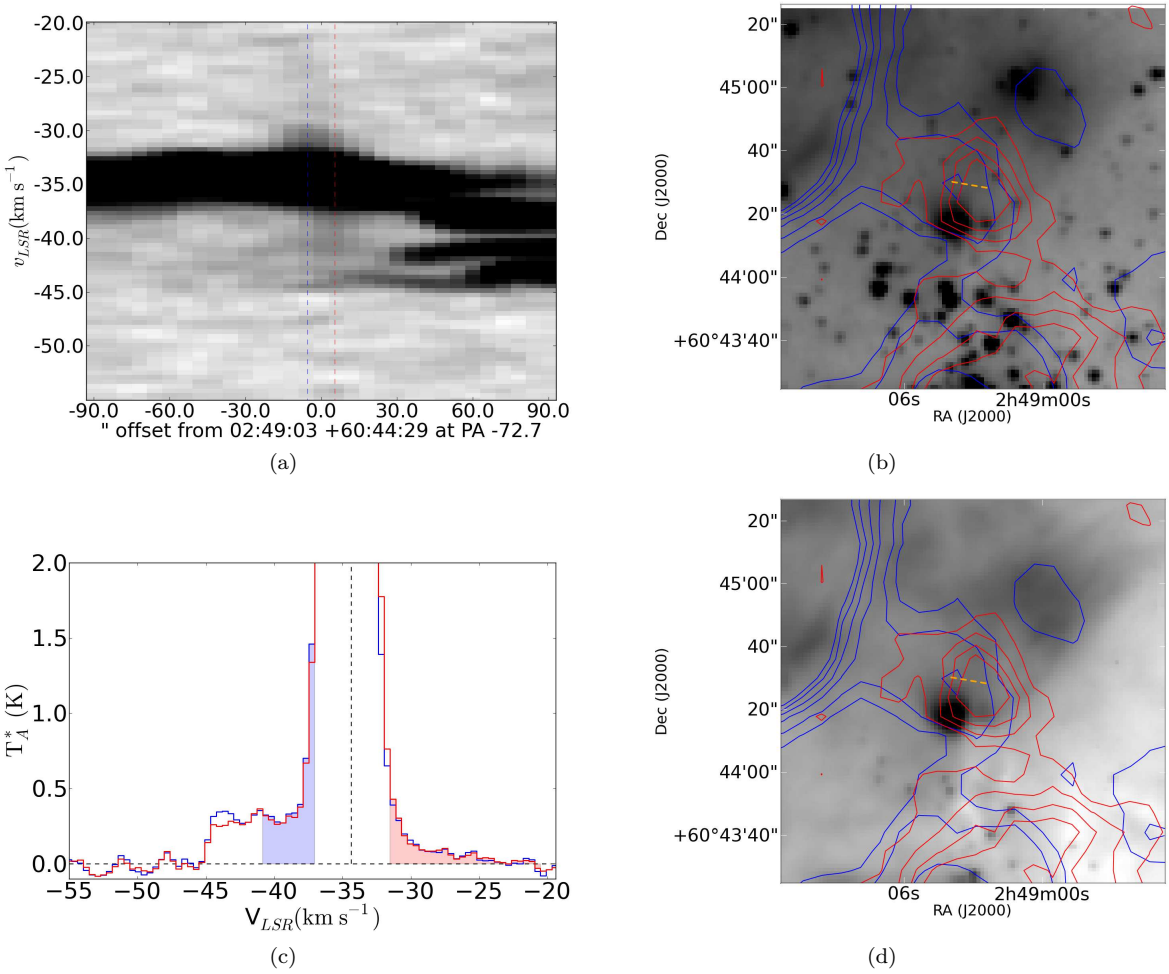


Figure 9. Position-velocity diagrams, spectra, and contour overlays of Outflow 11. The blue lobe is integrated over a limited range of velocities because of the extremely complex velocity distribution in the W5W complex that can be seen in the PV diagram (panel *a*). Nonetheless, the bipolar nature of the outflow is reasonably clear. Contours are displayed at levels 1.5,2,3,4,5,6 K km s^{-1} (blue) and 0.5,1,1.5,2,3,4,5,6 K km s^{-1} (red).

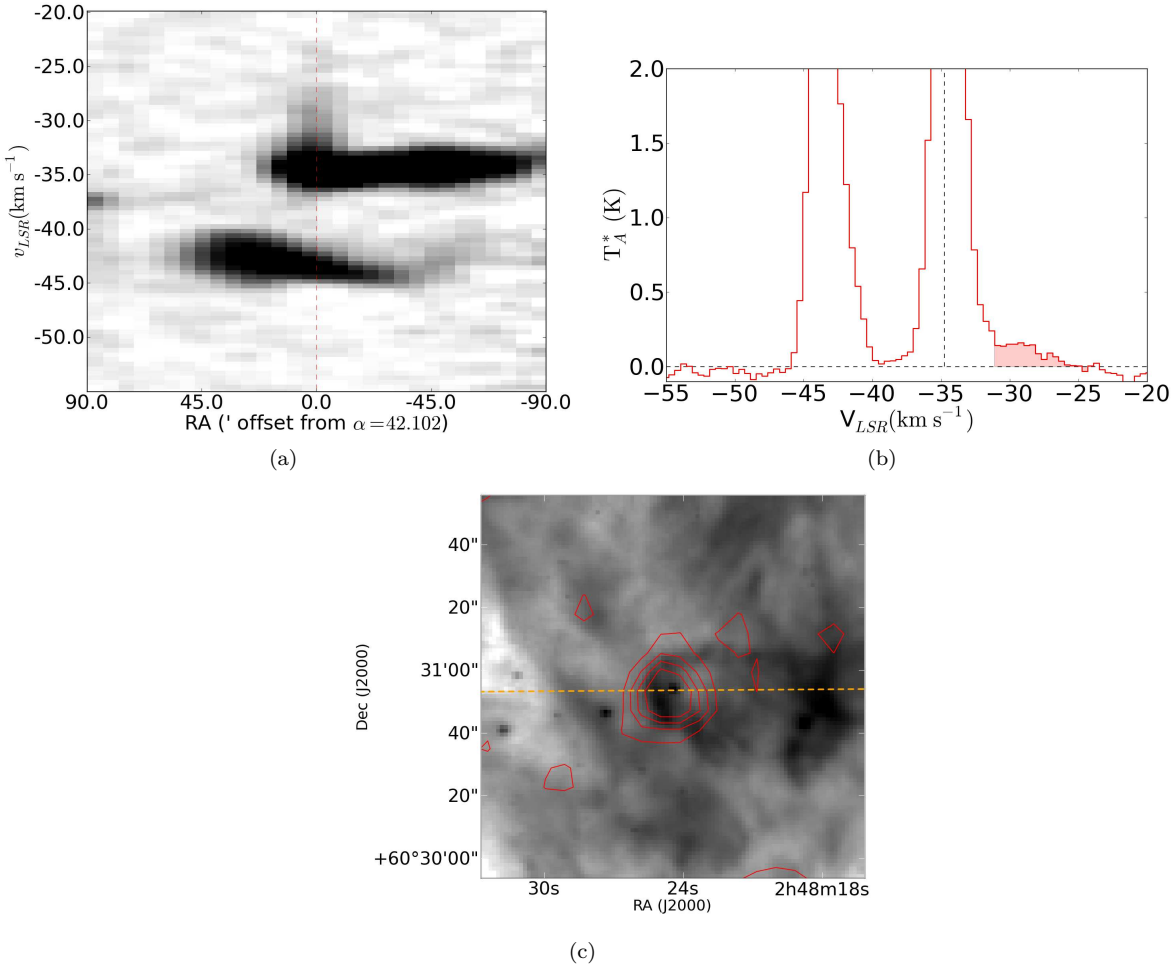


Figure 10. Position-velocity diagrams, spectra, and contour overlays of Outflow 13. The velocity distribution of gas in Outflow 13 is explored in more detail in Figure 23. No blueshifted counterflow could be detected, possibly because of confusion with the cloud at ~ -45 km s^{-1} along the same line of sight.

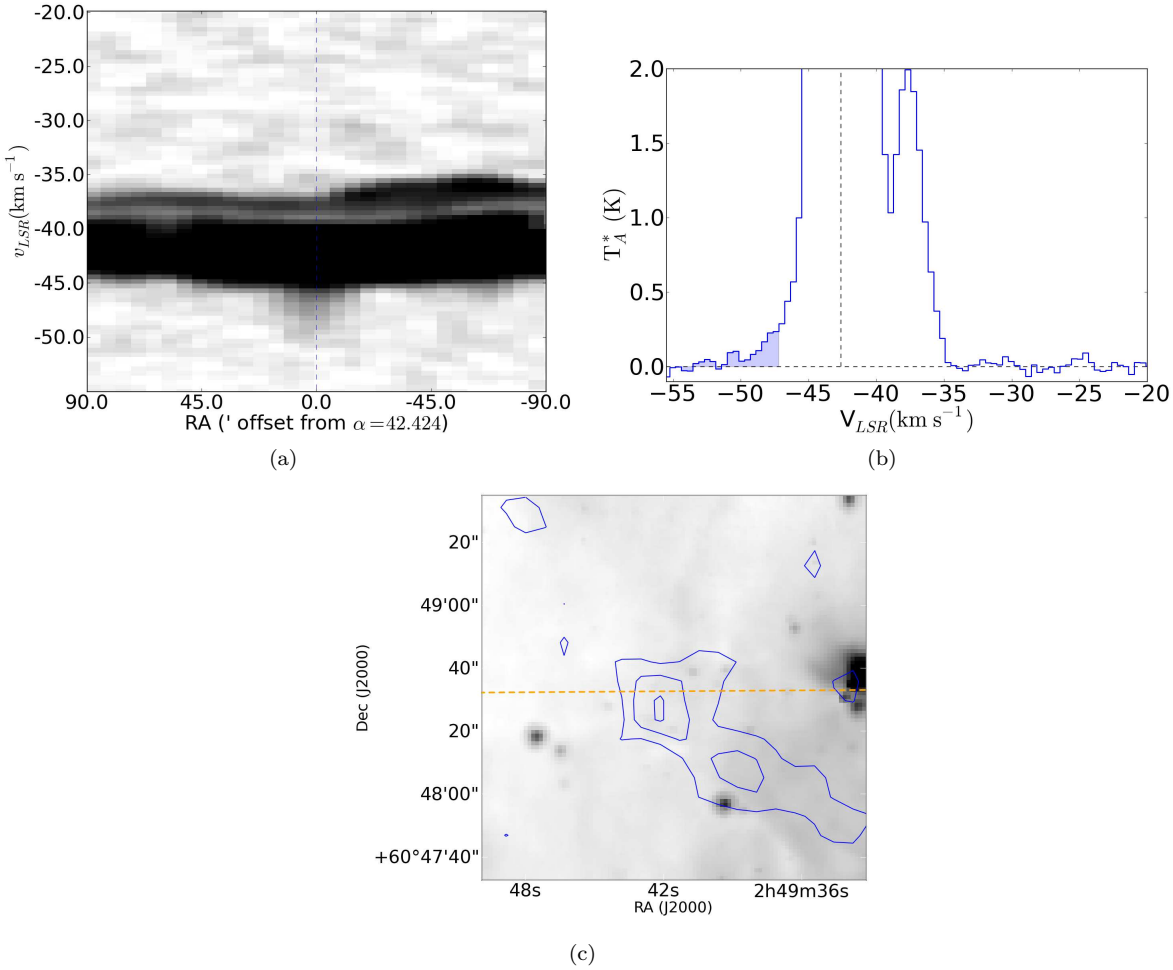


Figure 11. Position-velocity diagrams, spectra, and contour overlays of Outflow 14. No redshifted counterpart was detected, most likely because of confusion with the local cloud.

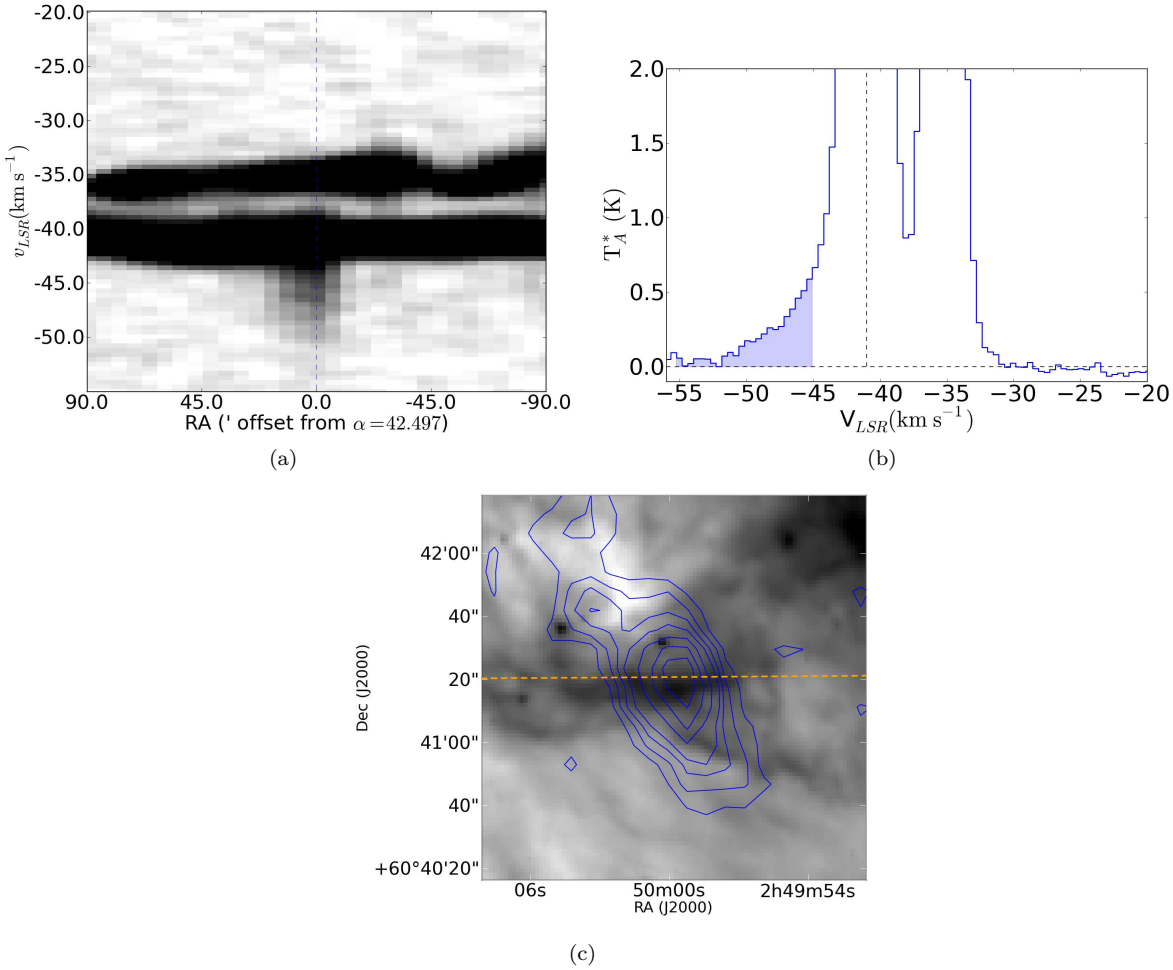
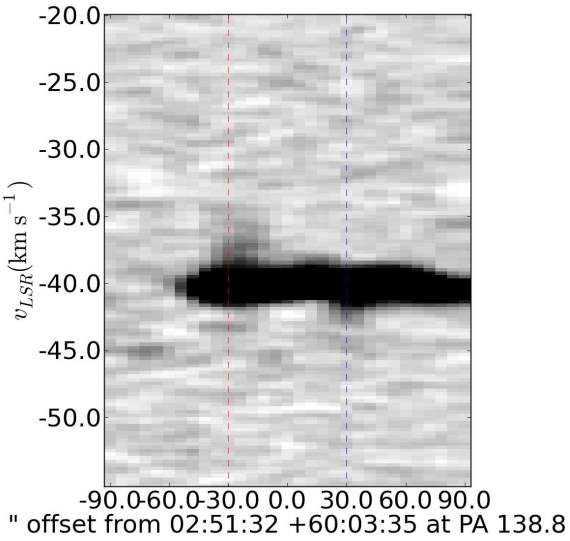
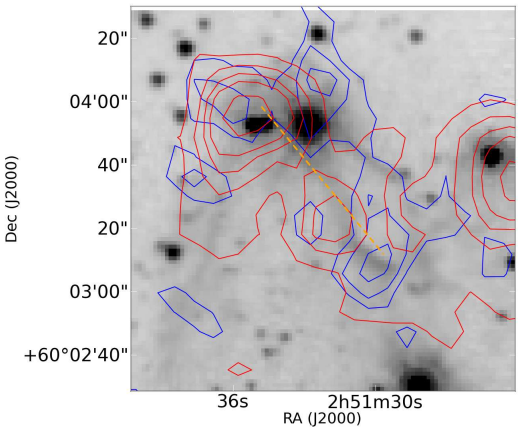


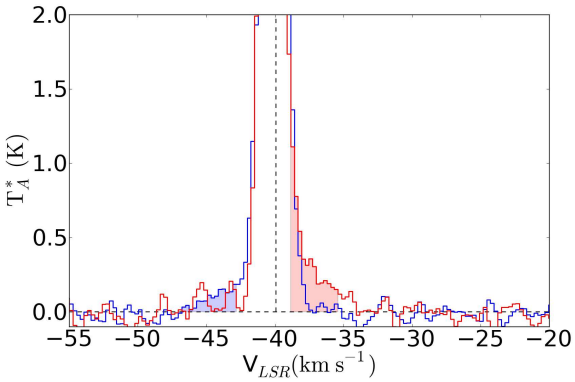
Figure 12. Position-velocity diagrams, spectra, and contour overlays of Outflow 15. No redshifted counterpart was detected, most likely because of confusion with the local cloud.



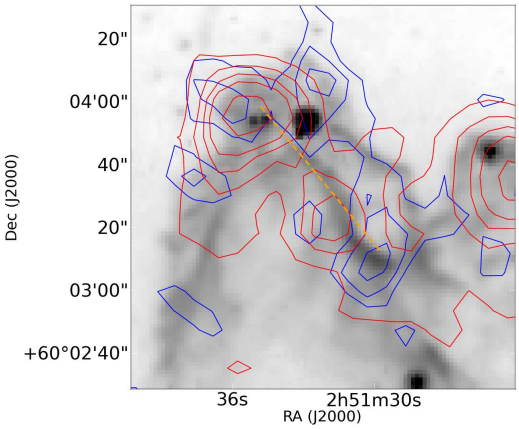
(a)



(b)



(c)



(d)

Figure 13. Position-velocity diagrams, spectra, and contour overlays of Outflow 16. Outflow 16 may actually be two distinct outflows; unfortunately it is nearly impossible to distinguish the two possibilities in position-velocity space. Contours are displayed at levels 0.3,0.5,0.75,1.5,2,3,4,5,6 K km s^{-1} (blue) and 0.5,1,1.5,2,3,4,5,6 K km s^{-1} (red).

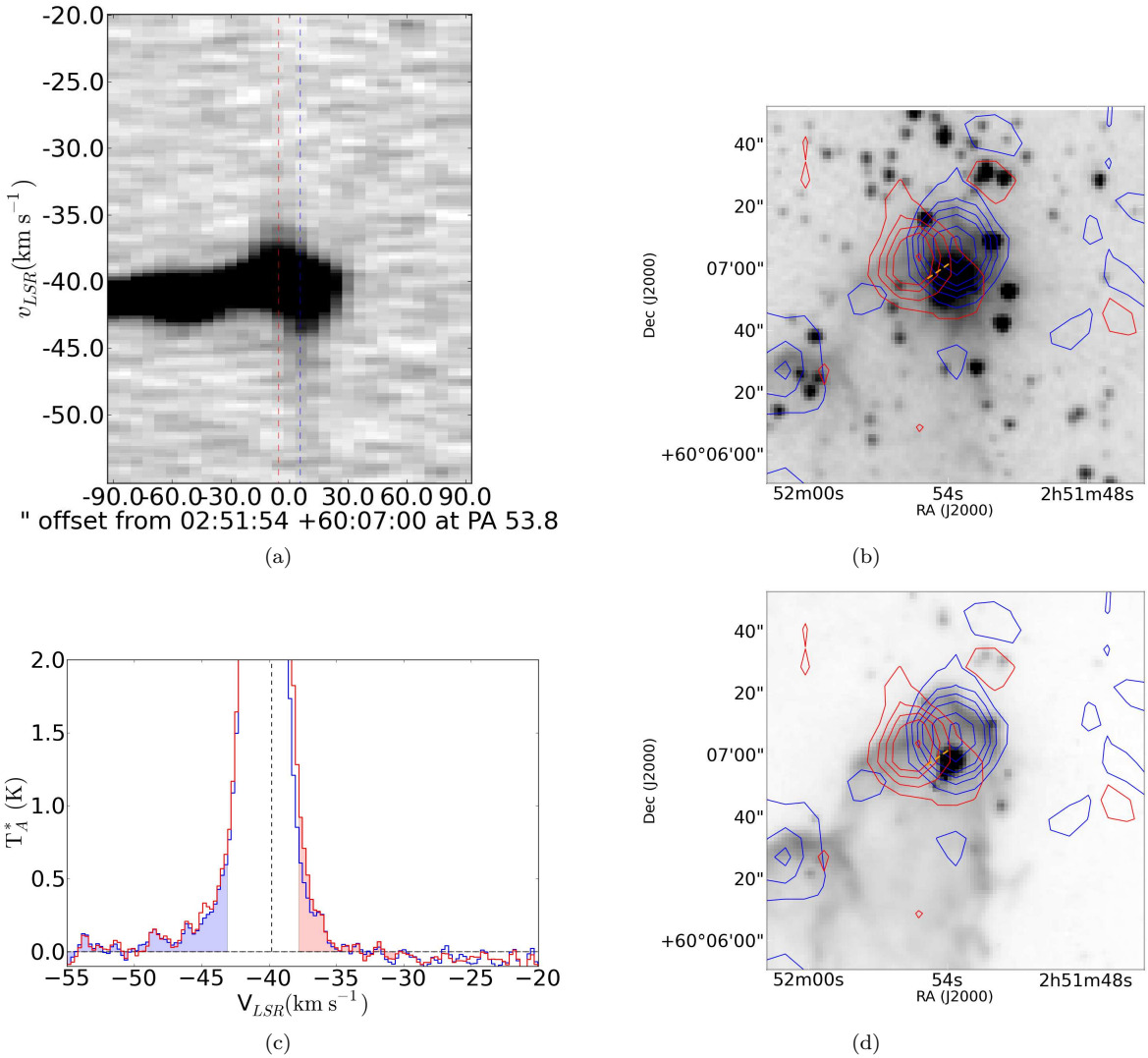


Figure 14. Position-velocity diagrams, spectra, and contour overlays of Outflow 17. This outflow pair is clear and isolated.

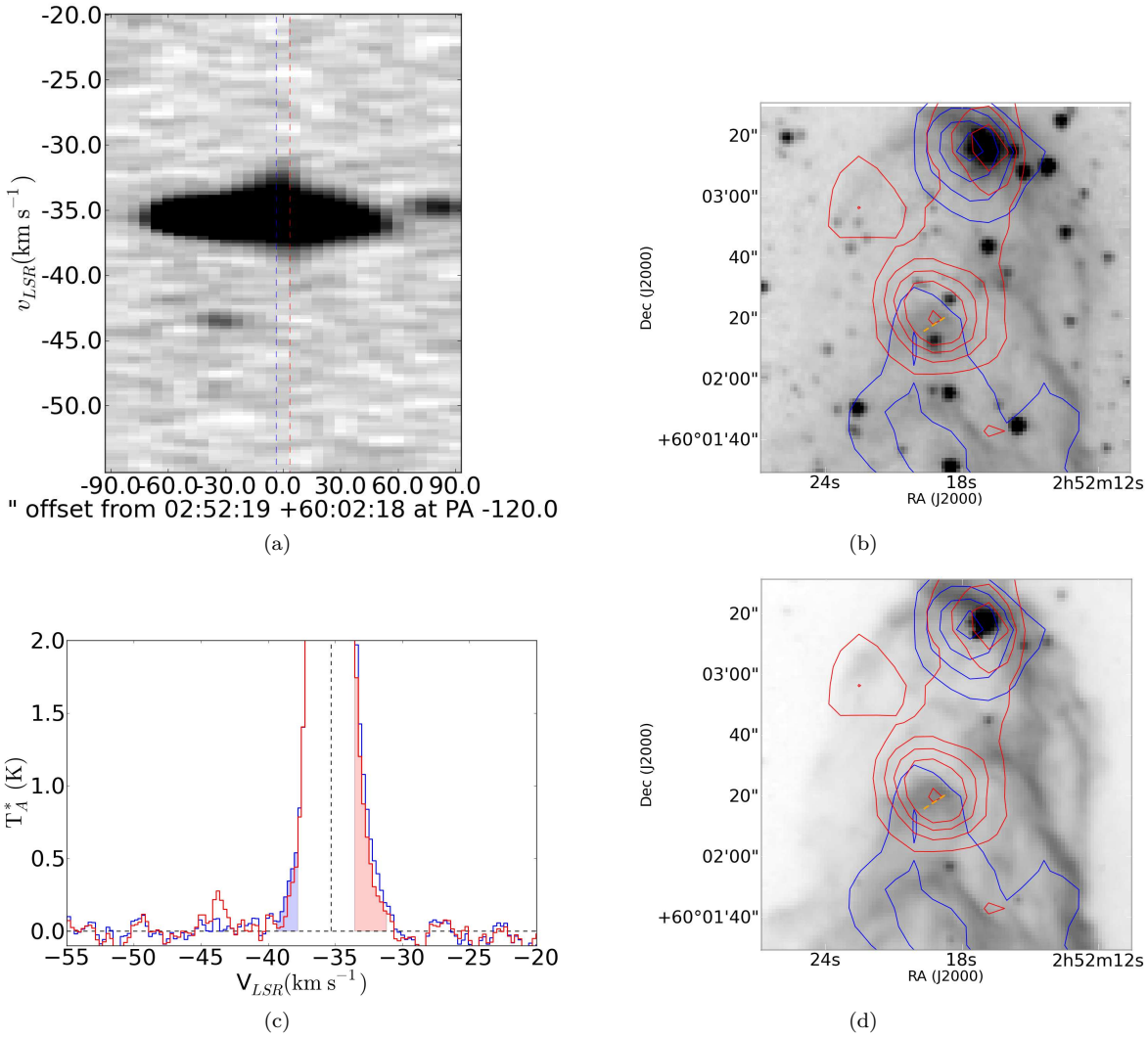


Figure 15. Position-velocity diagrams, spectra, and contour overlays of Outflow 18. Similar to Outflow 16, there are many confusing lobes nearby, but since there is a clear counterpart to Outflow 19 (the lobes in the north half of panels (*b*) and (*d*)) and a weak but nonetheless apparent flow in position- velocity space, we regard this as a reliable pair detection. The velocity structure of these flows is explored in more detail in Figure 20.

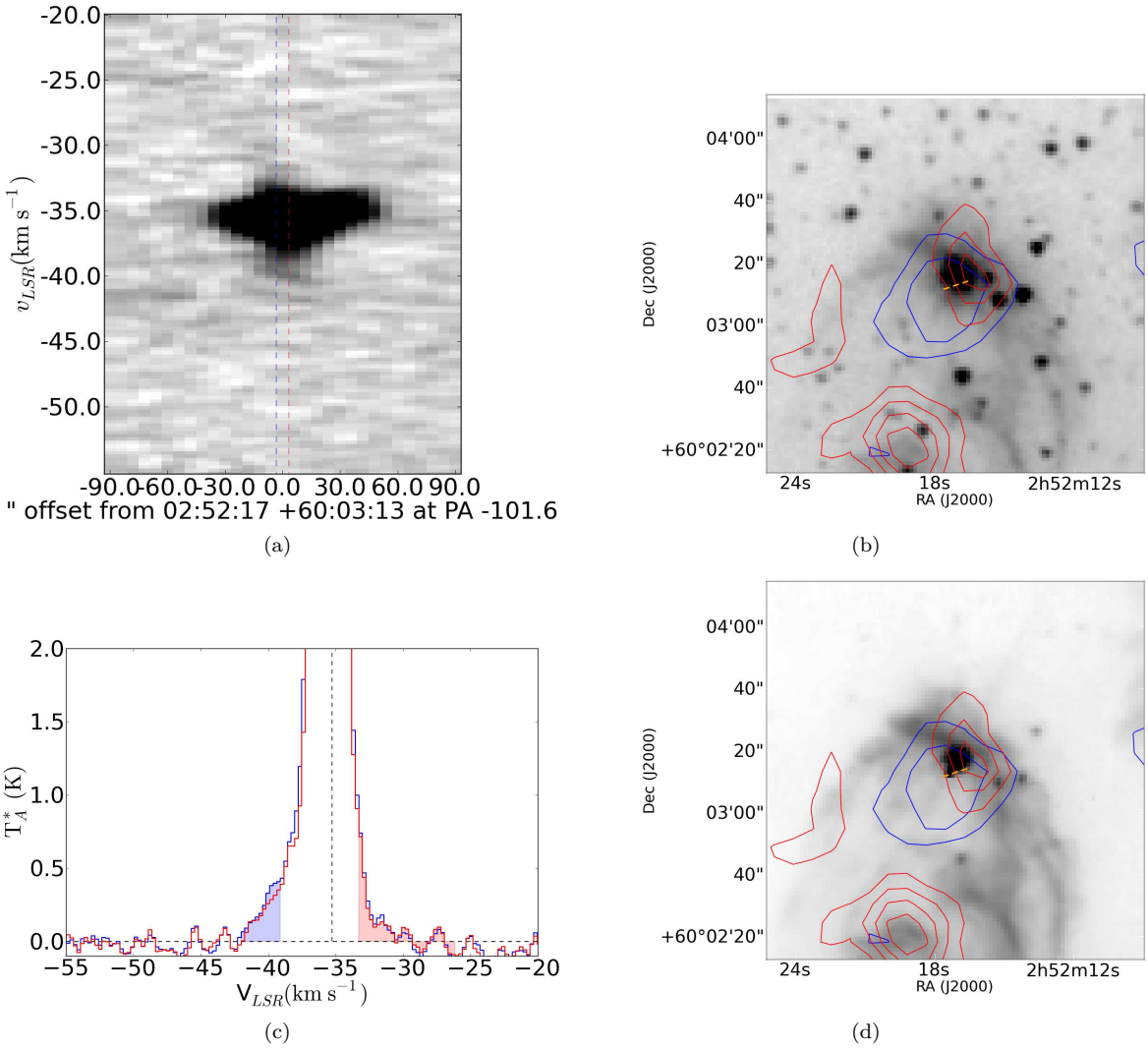


Figure 16. Position-velocity diagrams, spectra, and contour overlays of Outflow 19. The velocity structure of these flows is explored in more detail in Figure 20.

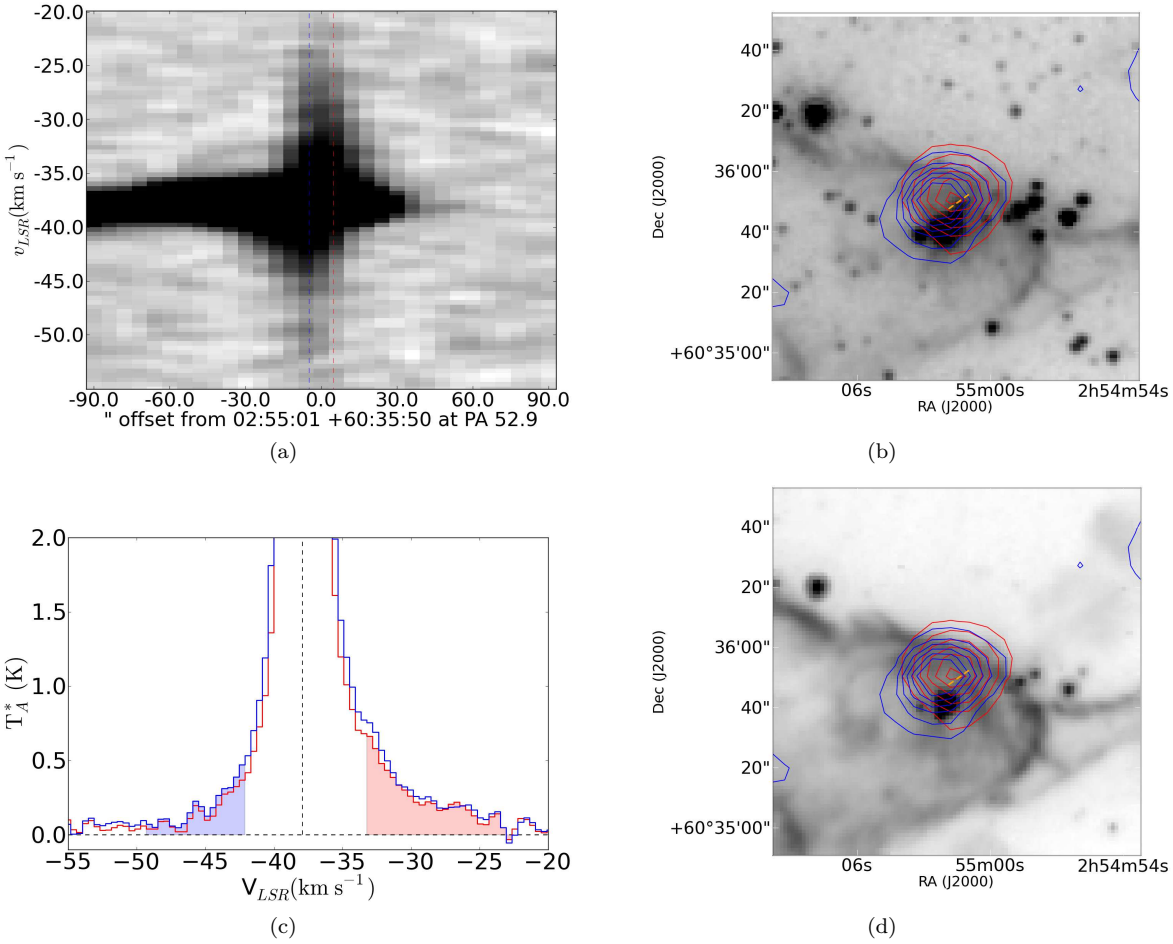


Figure 17. Position-velocity diagrams, spectra, and contour overlays of Outflow 20. The outflow is clearly detected in both red and blue. Contours are displayed at levels 1,2,3,4,5 ,6 K km s^{-1} (blue) and 2,4,6,8,10,12 K km s^{-1} (red).

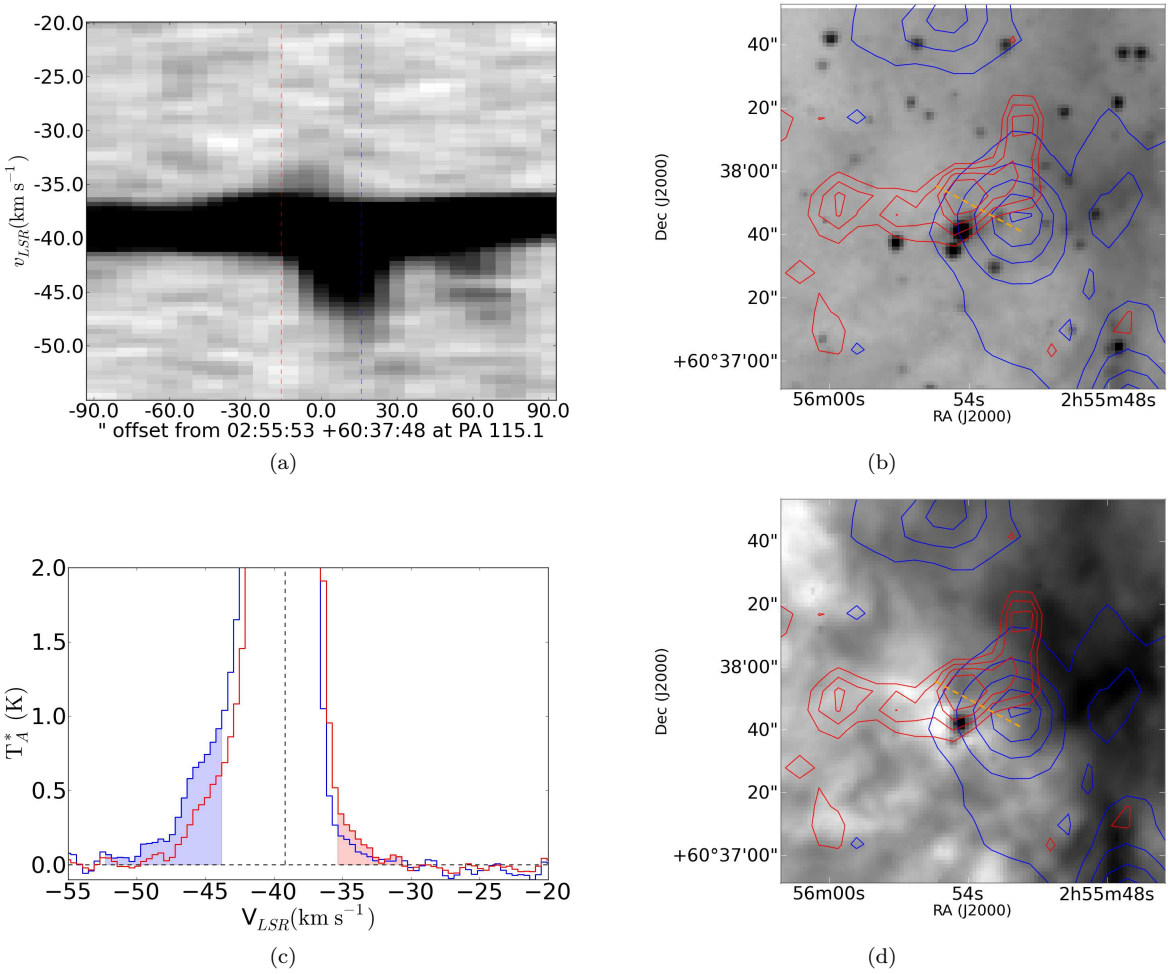


Figure 18. Position-velocity diagrams, spectra, and contour overlays of Outflow 21. Contours are displayed at levels 1,3,5,7,9 K km s^{-1} (blue) and 0.75,1,1.25,1.5,2 K km s^{-1} (red).

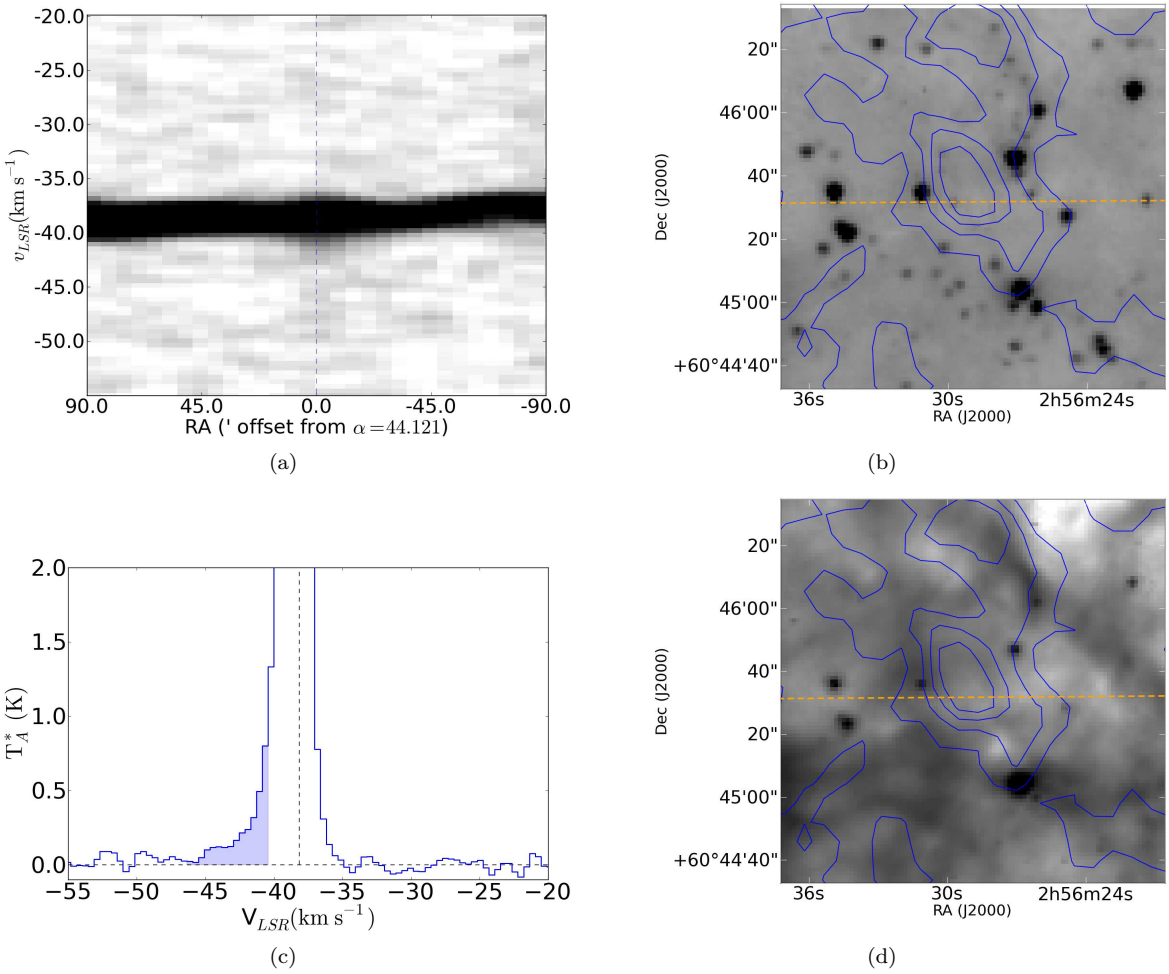


Figure 19. Position-velocity diagrams, spectra, and contour overlays of Outflow 22. A red outflow signature may be present, but it is not sigificant at > 1 channel from the cloud and therefore could not be clearly identified.

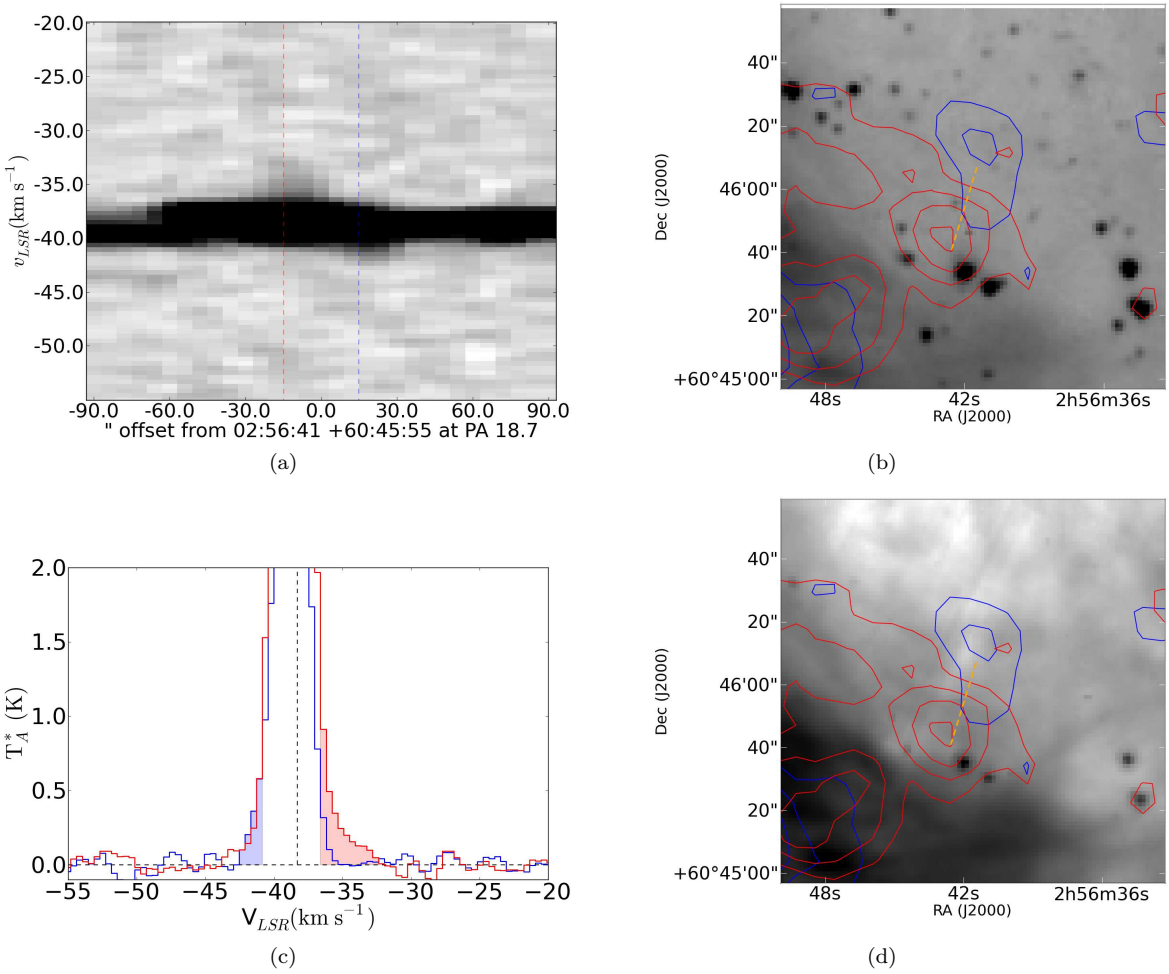


Figure 20. Position-velocity diagrams, spectra, and contour overlays of Outflow 23.

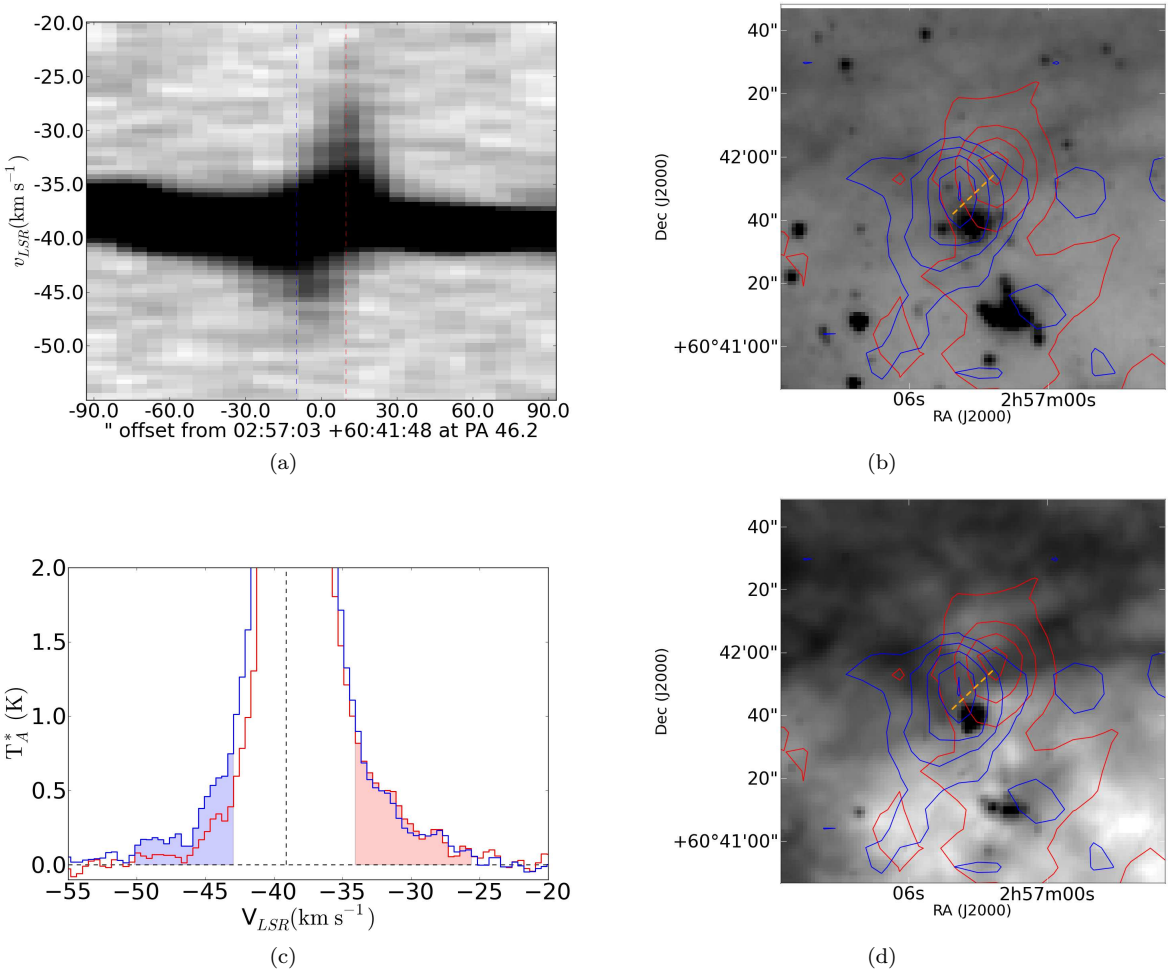


Figure 21. Position-velocity diagrams, spectra, and contour overlays of Outflow 24. Contours are displayed at levels 1,3,5,7 K km s^{-1} (blue) and 1,2,3,4,5 K km s^{-1} (red).

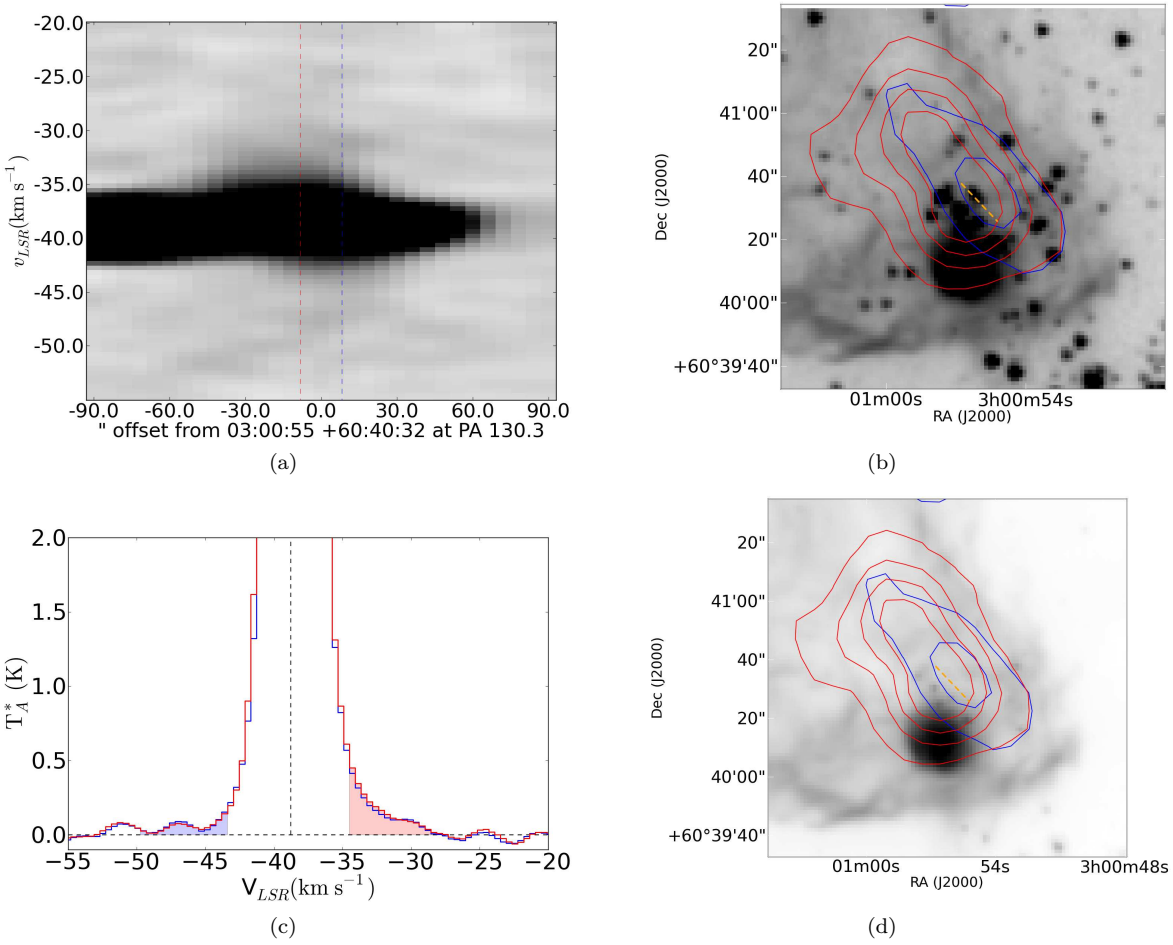


Figure 22. Position-velocity diagrams, spectra, and contour overlays of Outflow 25. The kinematics of the cometary cloud that hosts this outflow are explored in Figure 17.

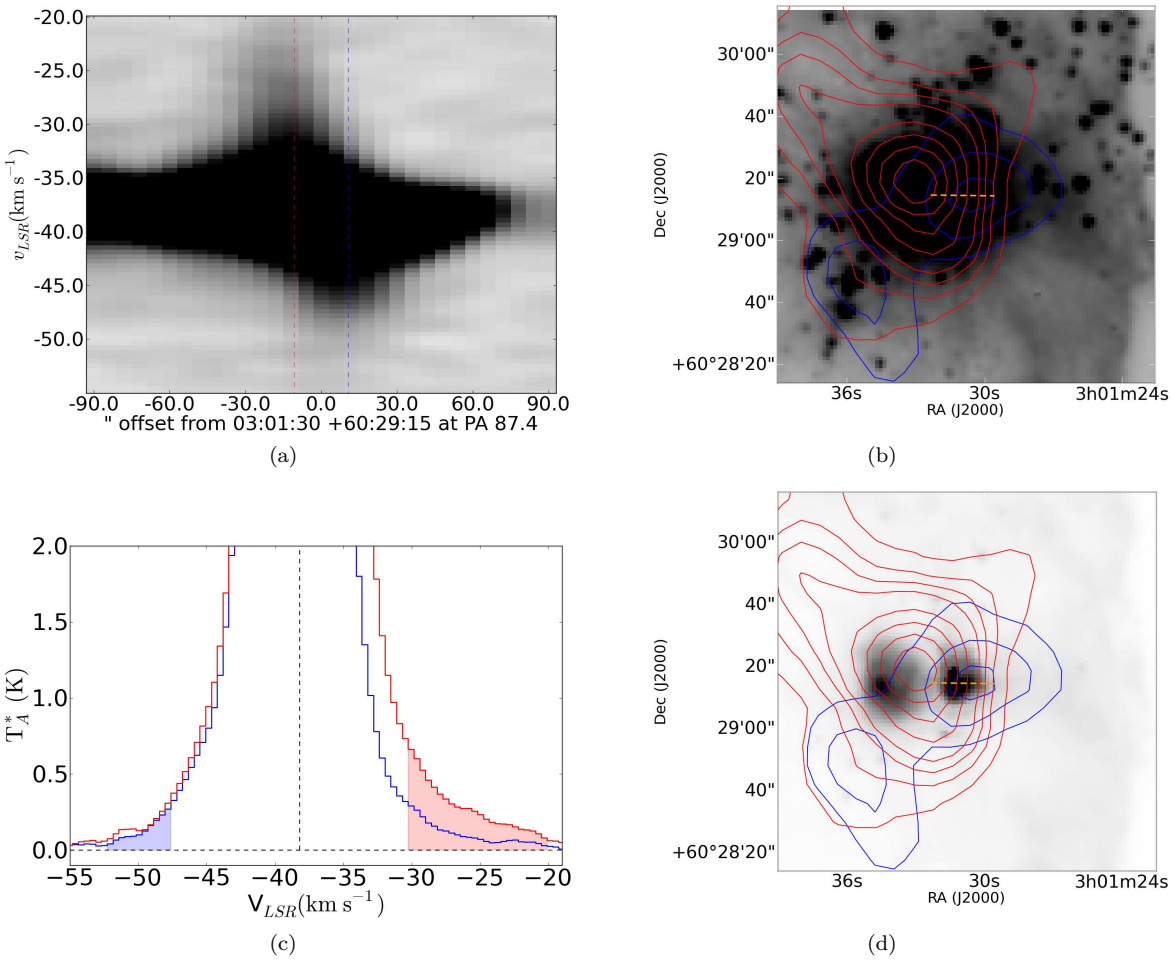


Figure 23. Position-velocity diagrams, spectra, and contour overlays of Outflow 26. This is the main outflow in AFGL 4029, and a firm association is made between the two lobes because of their proximity and strength compared to the other flows (27-32) nearby.

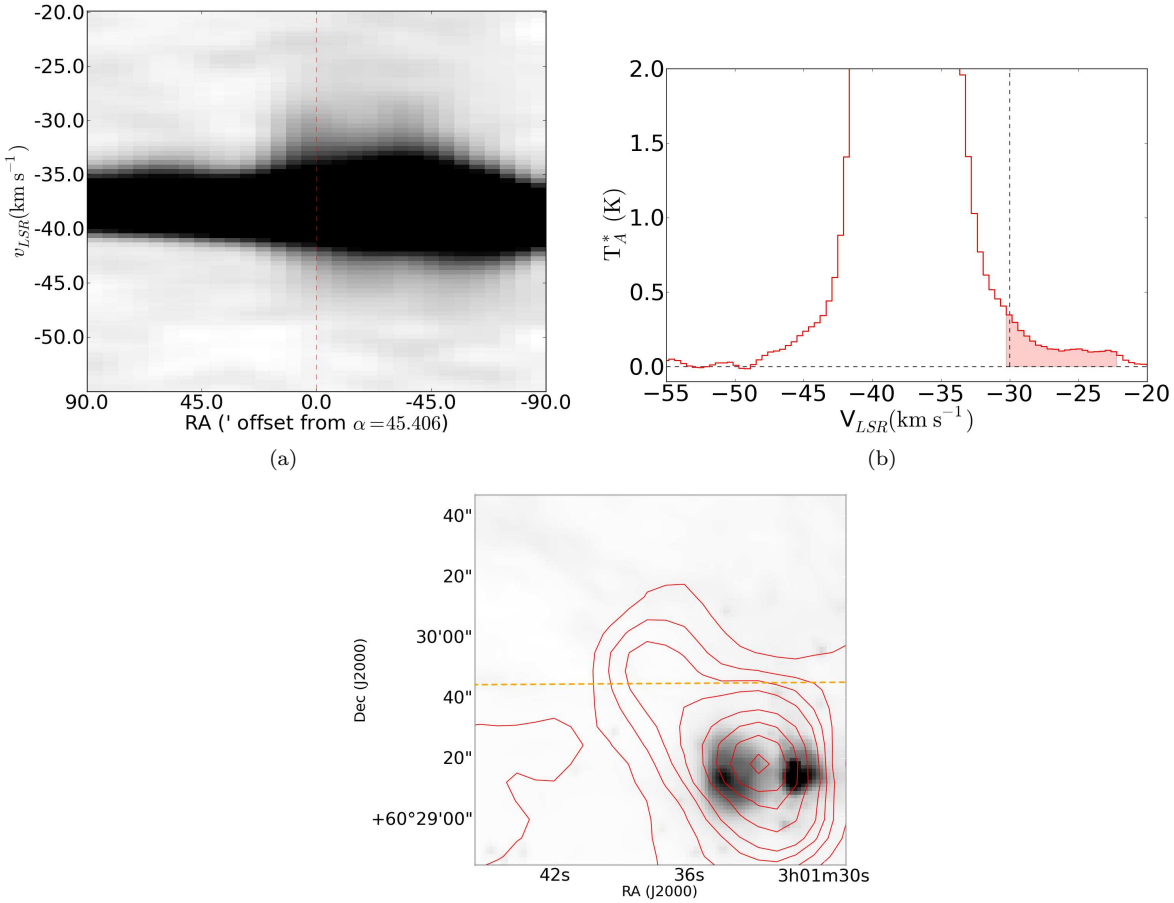


Figure 24. Position-velocity diagrams, spectra, and contour overlays of Outflow 27. Because of confusion in the AFGL 4029 region, no counterflow could be identified.

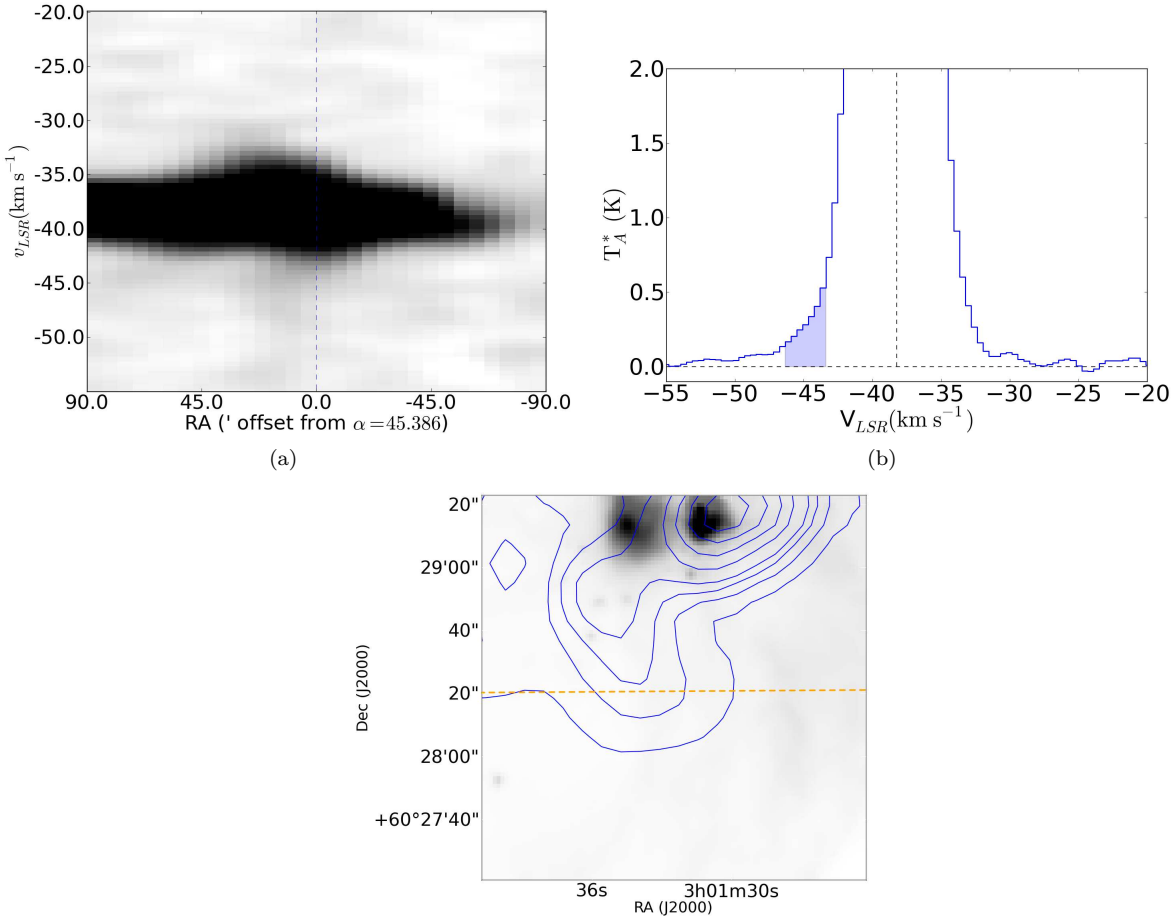


Figure 25. Position-velocity diagrams, spectra, and contour overlays of Outflow 28. Because of confusion in the AFGL 4029 region, no counterflow could be identified.

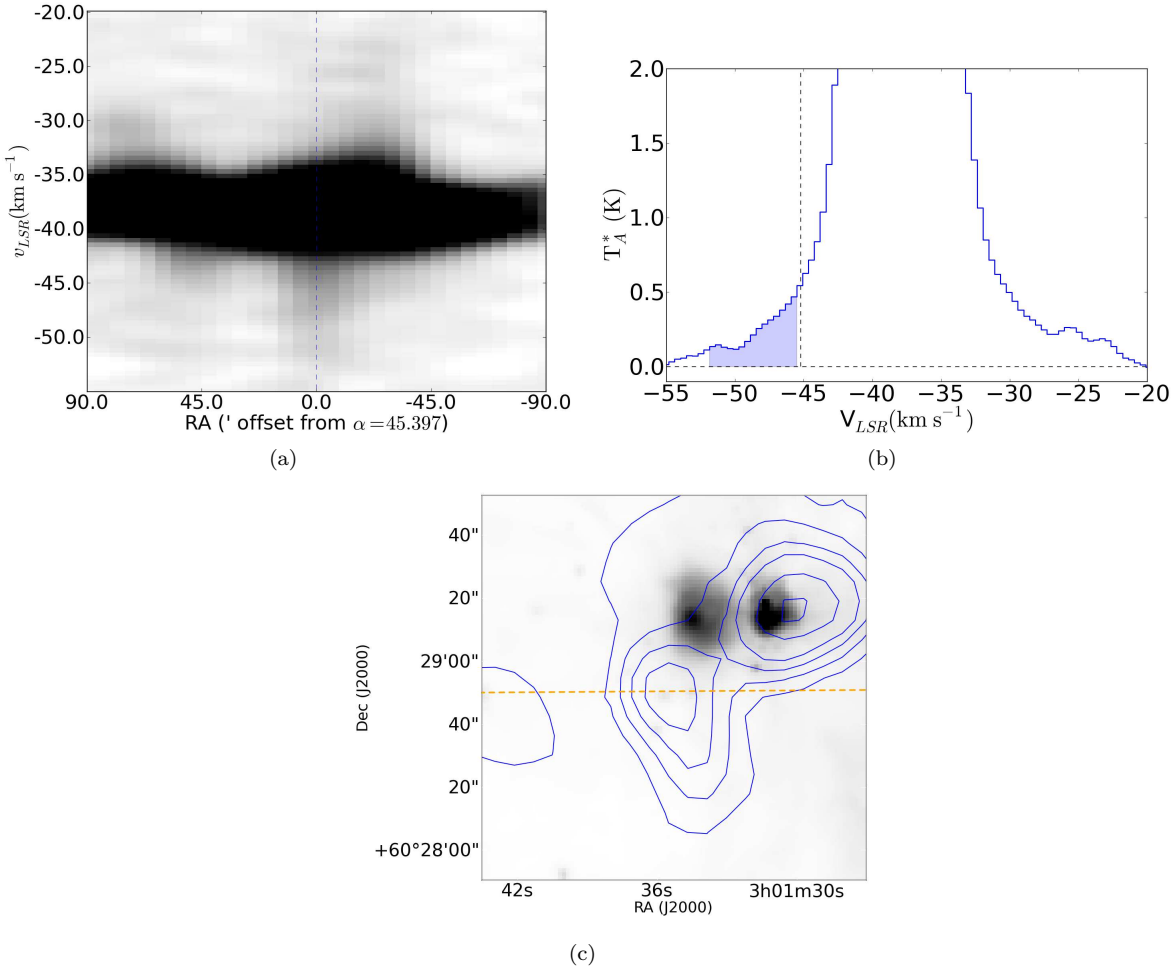


Figure 26. Position-velocity diagrams, spectra, and contour overlays of Outflow 29. Because of confusion in the AFGL 4029 region, no counterflow could be identified.

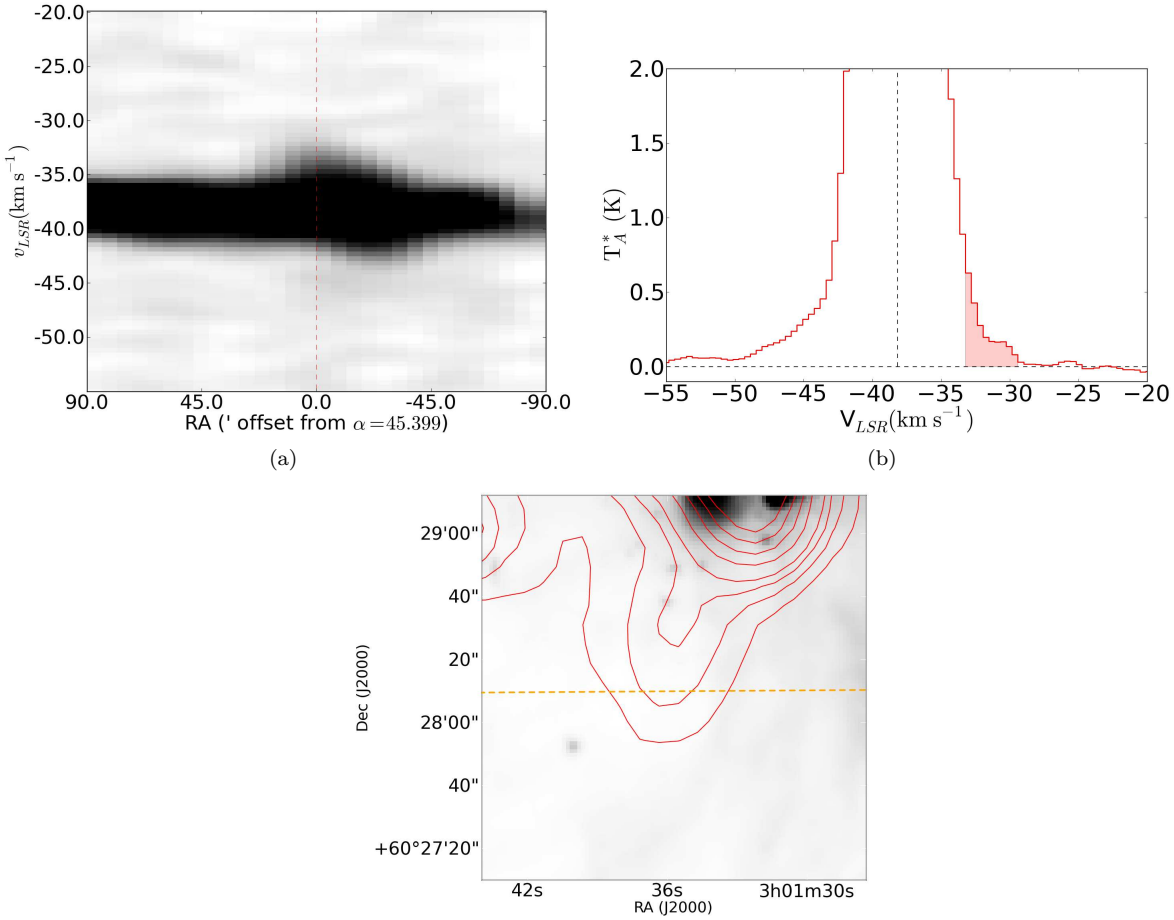


Figure 27. Position-velocity diagrams, spectra, and contour overlays of Outflow 30. Because of confusion in the AFGL 4029 region, no counterflow could be identified.

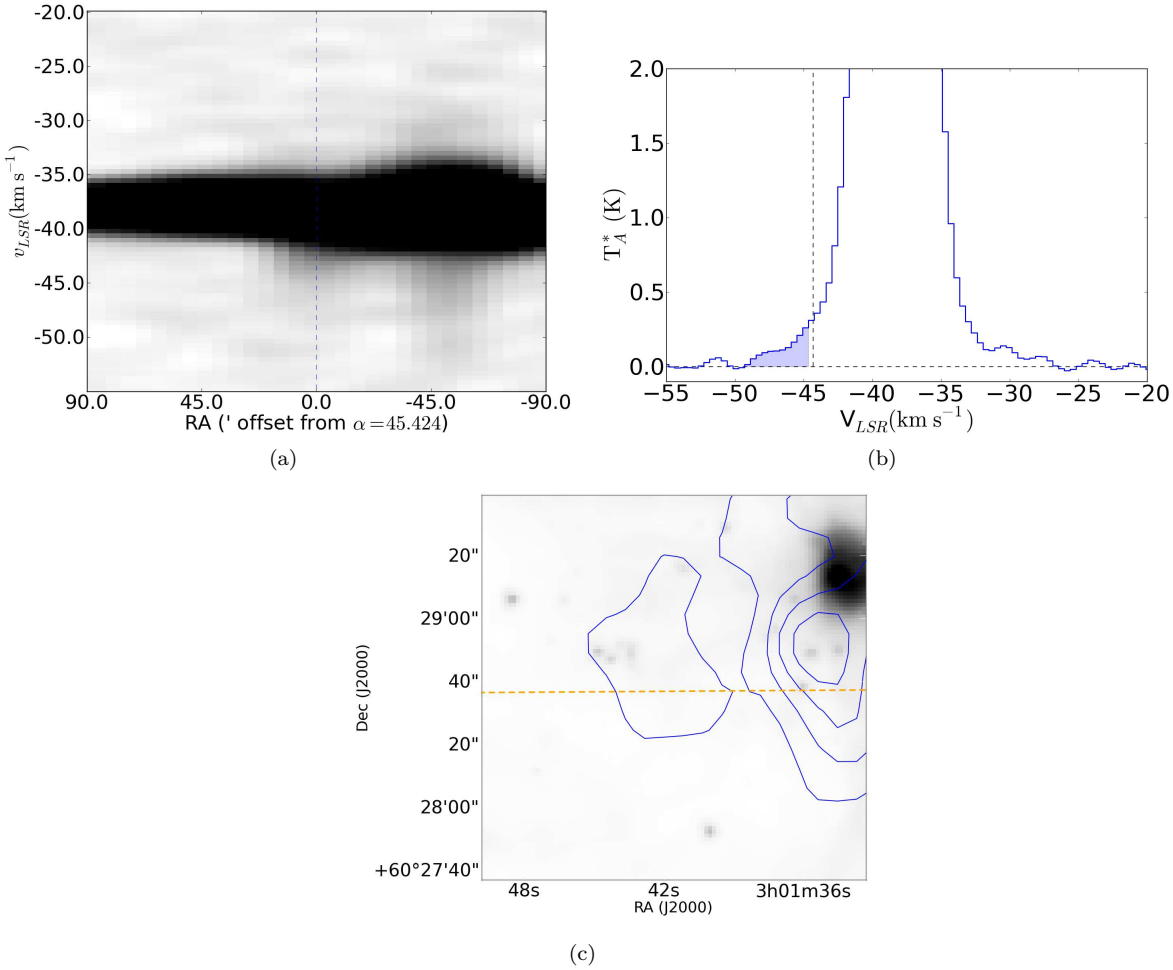


Figure 28. Position-velocity diagrams, spectra, and contour overlays of Outflow 31. Because of confusion in the AFGL 4029 region, no counterflow could be identified.

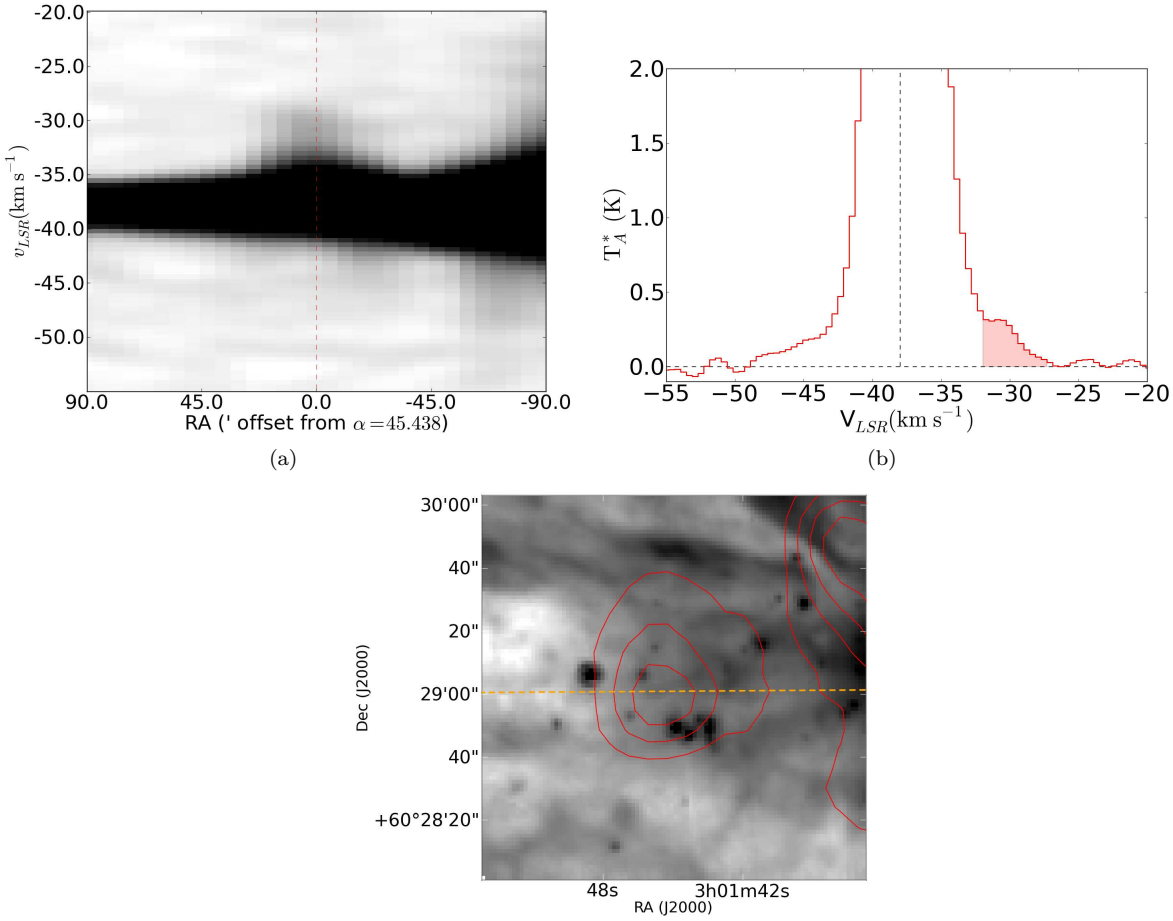


Figure 29. Position-velocity diagrams, spectra, and contour overlays of Outflow 32. Because of confusion in the AFGL 4029 region, no counterflow could be identified.

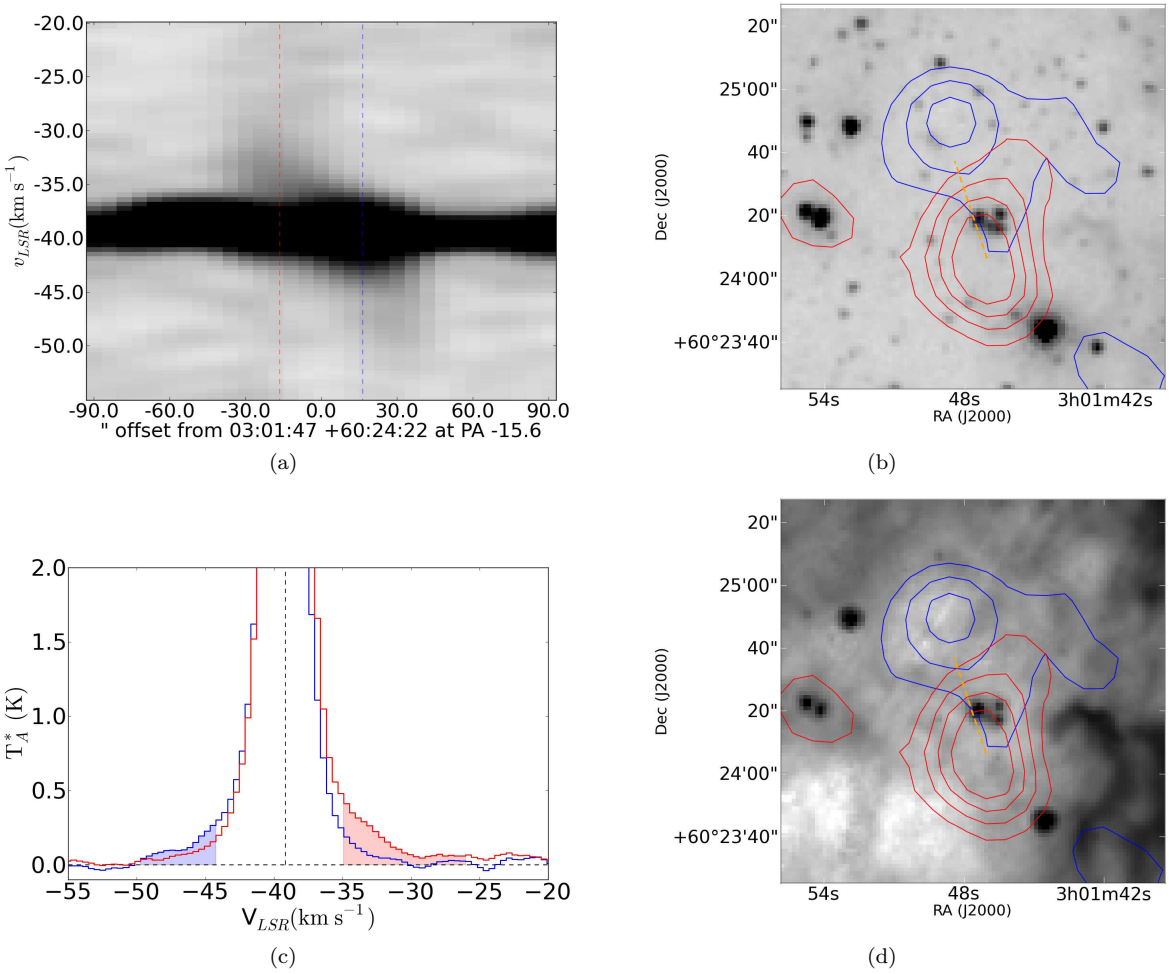


Figure 30. Position-velocity diagrams, spectra, and contour overlays of Outflow 33. The bipolar outflow is clear in both the position-velocity diagram as a gradient and the contour plots.

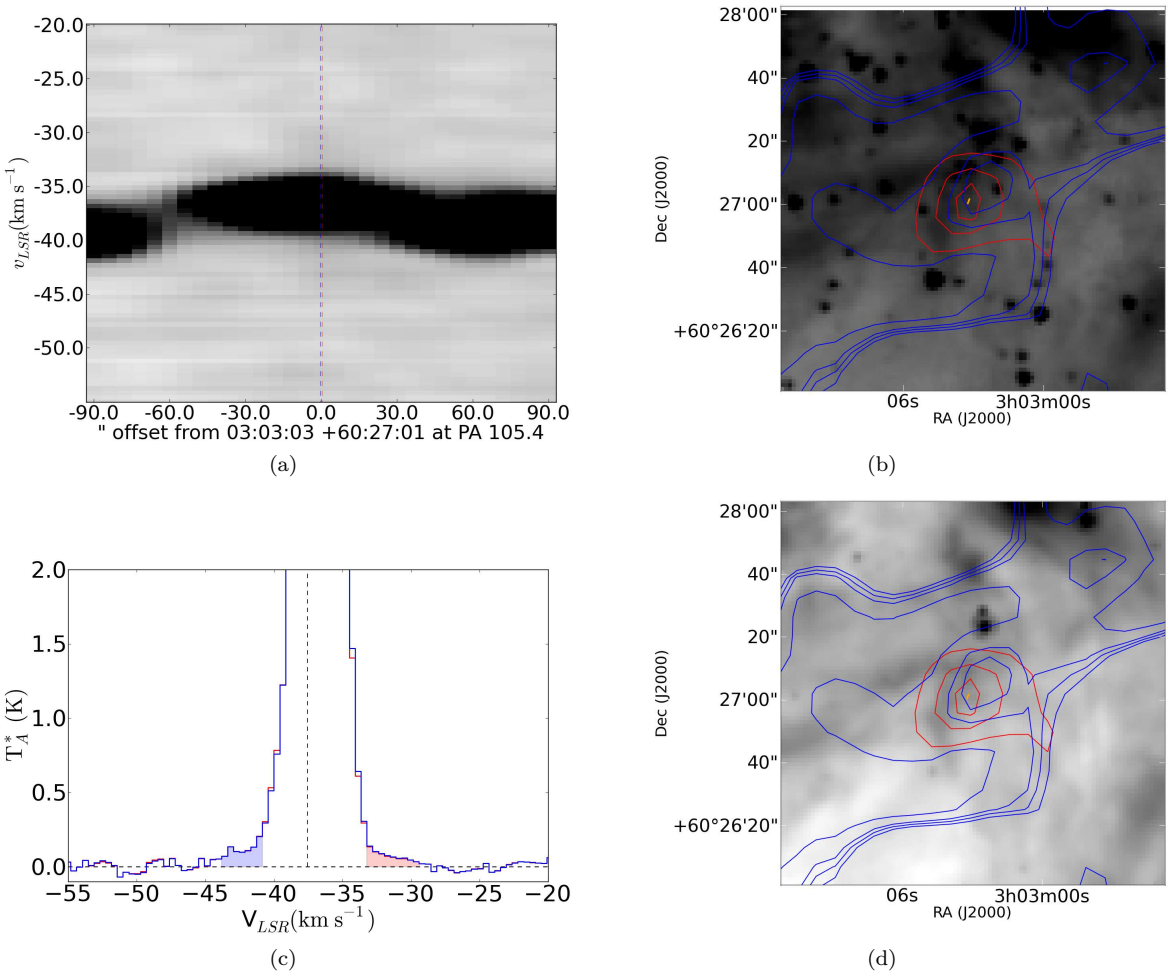


Figure 31. Position-velocity diagrams, spectra, and contour overlays of Outflow 34. The outflow is very faint, but apparently bipolar. Contour levels are 0.25, 0.4, 0.5 K km s^{-1} (red) and 0.25, 0.4, 0.45, 0.5 K km s^{-1} (blue)

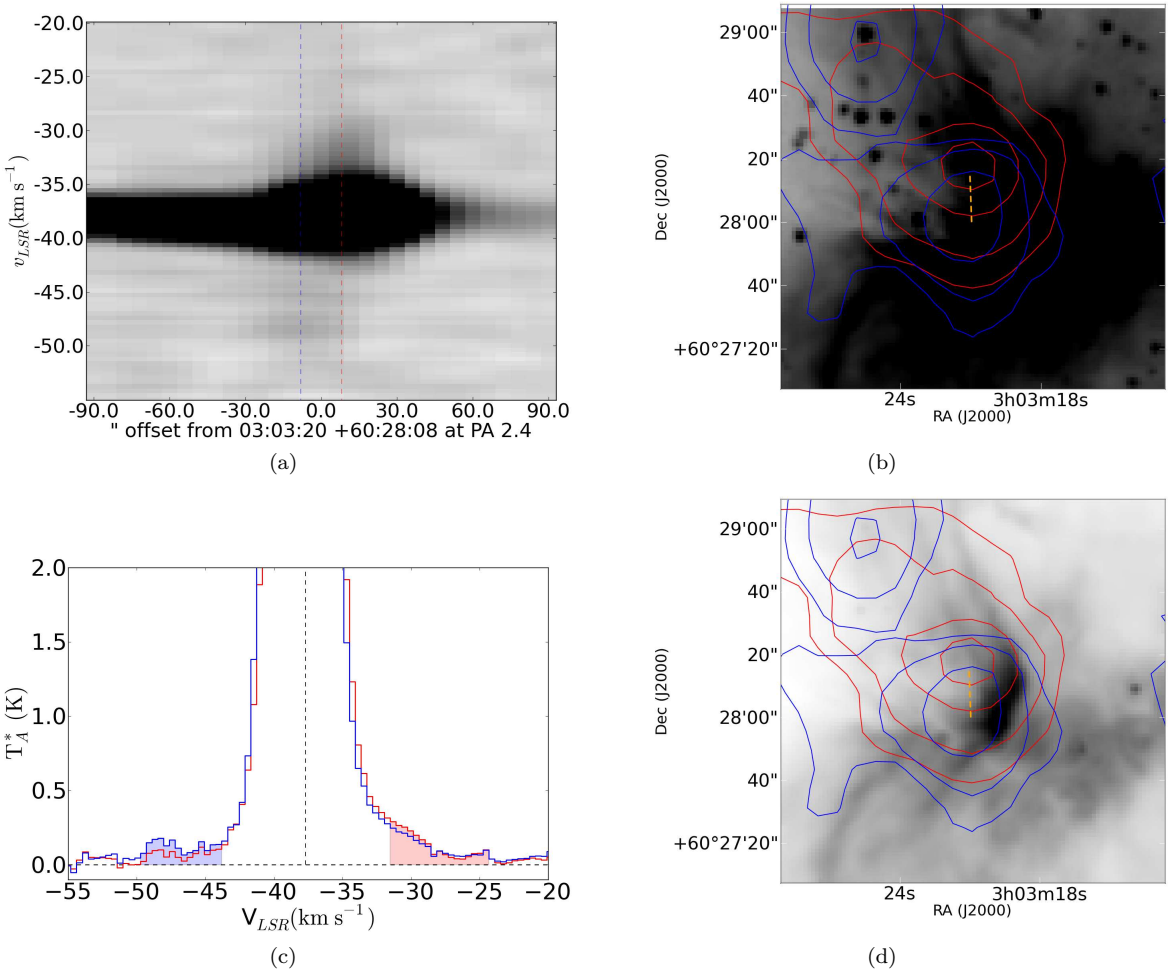


Figure 32. Position-velocity diagrams, spectra, and contour overlays of Outflow 35. Contours are displayed at levels 0.25,0.5,1,1.5,2,3,4,5,6 K km s^{-1} (blue) and 0.25,0.5,1,1.5,2,3,4,5,6 K km s^{-1} (red).

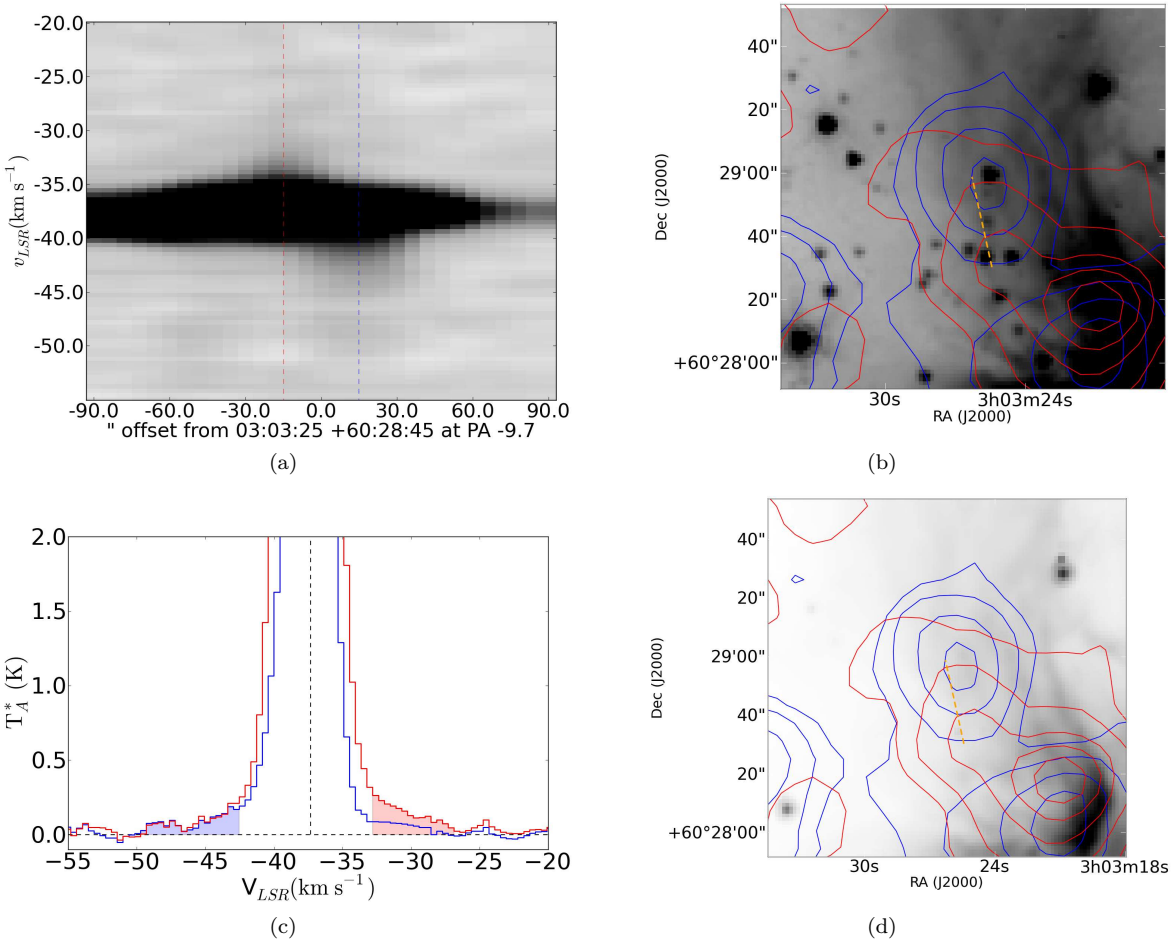


Figure 33. Position-velocity diagrams, spectra, and contour overlays of Outflow 36. Contours are displayed at levels 0.25,0.5,1,1.5,2,3,4,5,6 K km s^{-1} (blue) and 0.25,0.5,1,1.5,2,3,4,5,6 K km s^{-1} (red).

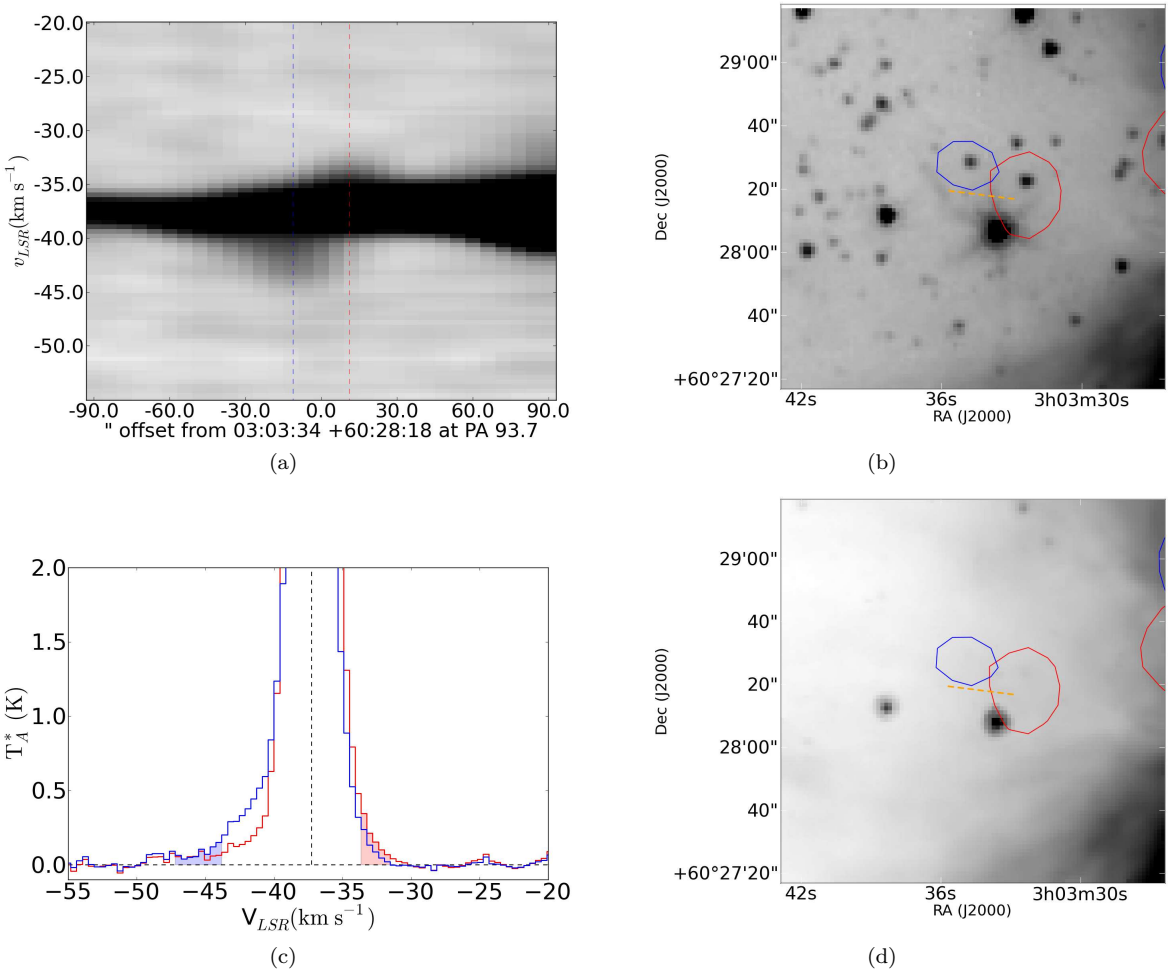


Figure 34. Position-velocity diagrams, spectra, and contour overlays of Outflow 37. There is a faint streak in the 4.5 μm image at 03:03:36.3 +60:28:22 that may be an H_2 jet.

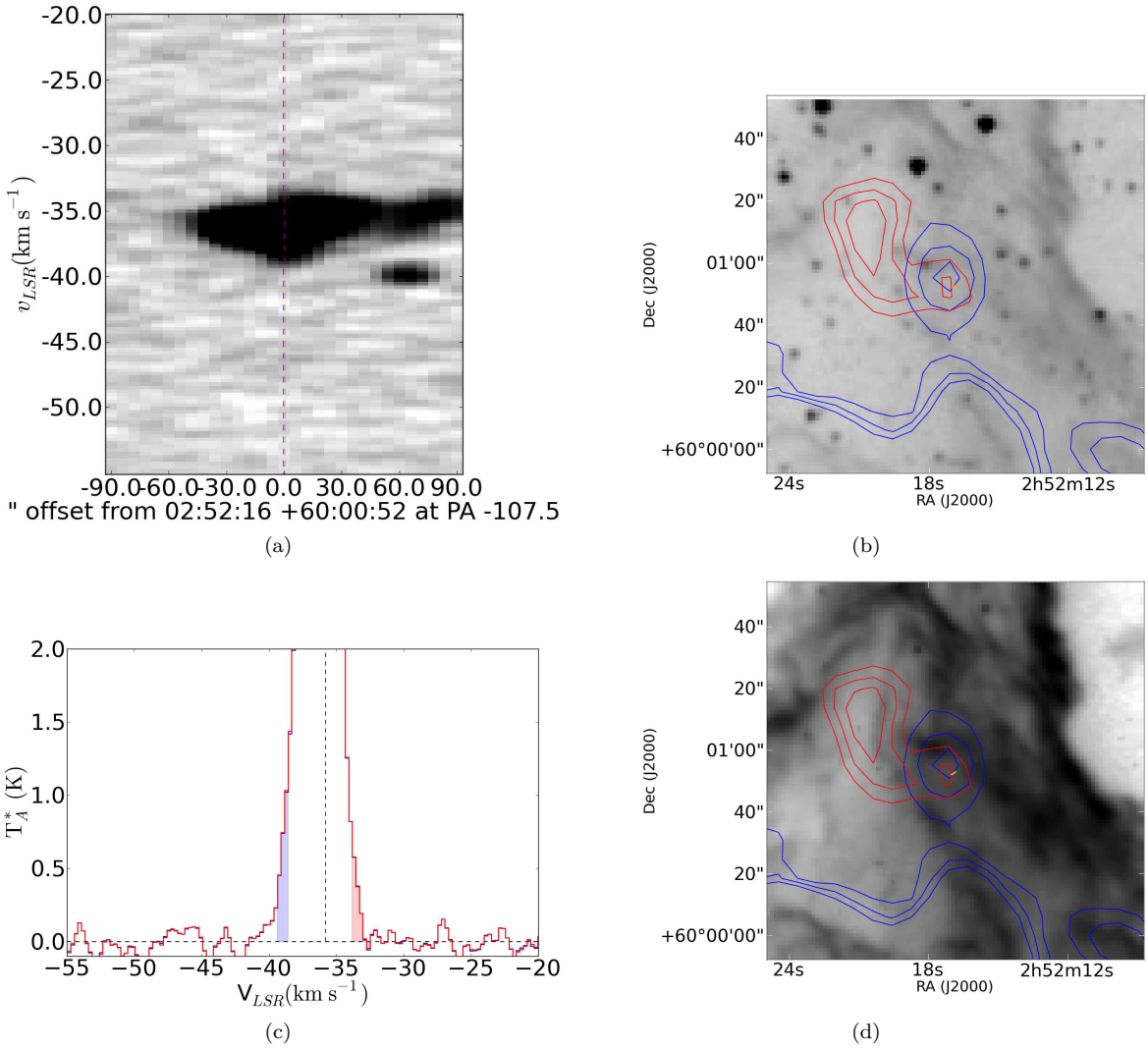


Figure 35. Position-velocity diagrams, spectra, and contour overlays of Outflow 38. The red contours to the left of center show a clump of gas at the same velocity as the redshifted flow, but this gas does not appear to be part of an outflow system as it has an approximately gaussian line profile. Contours are displayed at levels 0.5,0.75,1 K km s^{-1} (blue) and 0.5,0.75,1 K km s^{-1} (red).

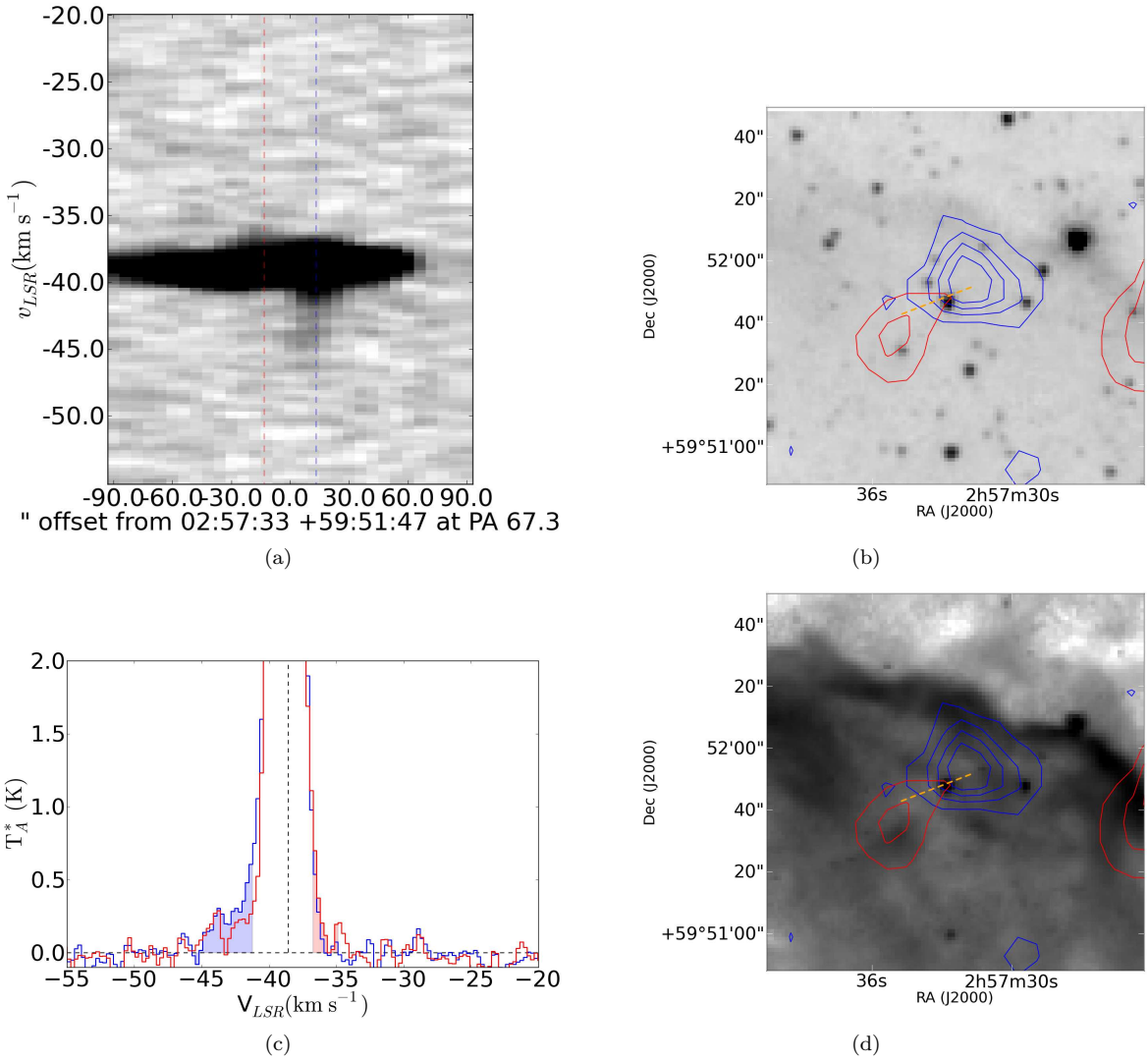


Figure 36. Position-velocity diagrams, spectra, and contour overlays of Outflow 39.

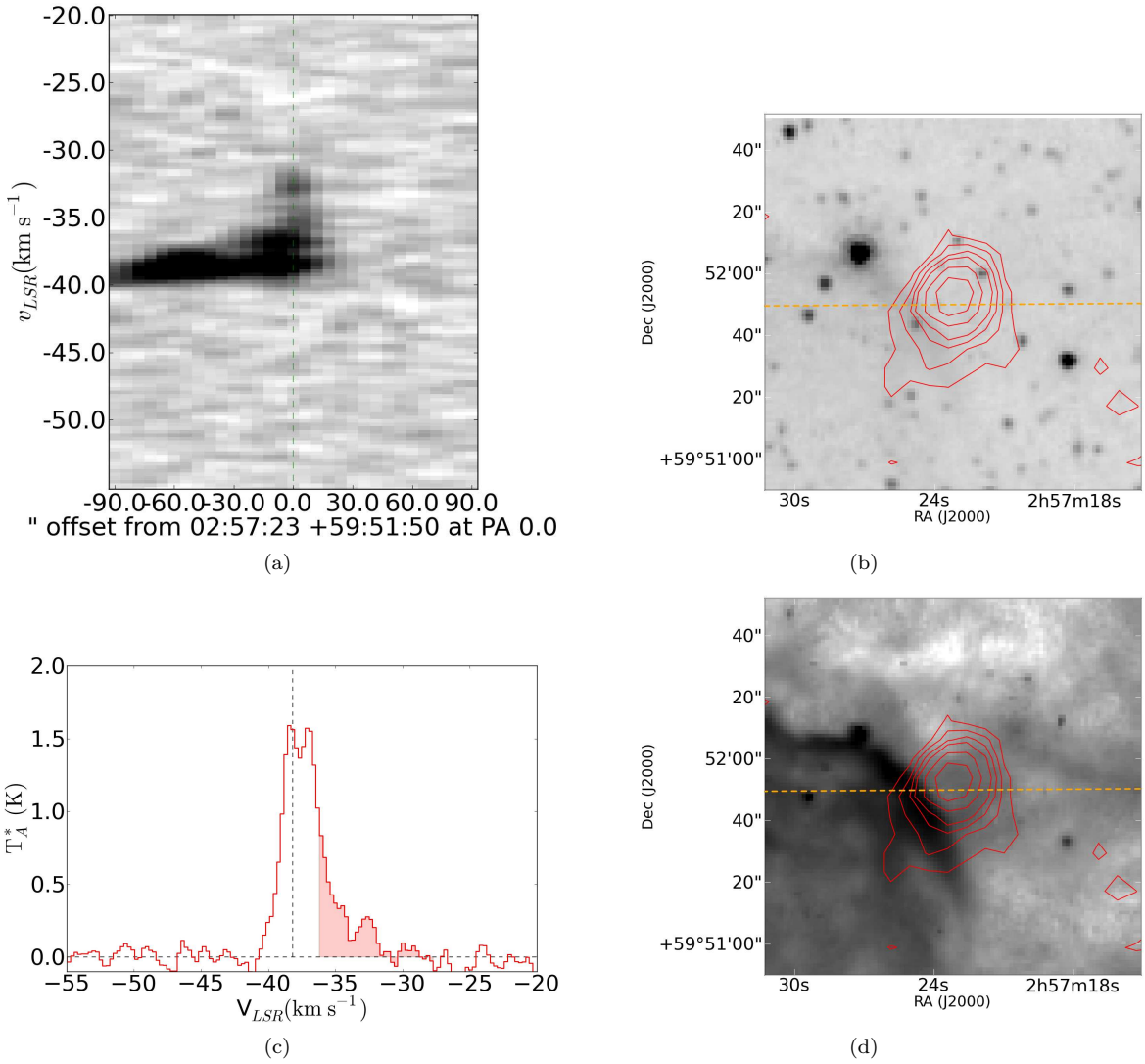


Figure 37. Position-velocity diagrams, spectra, and contour overlays of Outflow 40. The morphology of the high-velocity components in the PV diagram appear to be independent clouds, but the coincidence of three independent clouds along the same line of sight is somewhat unlikely, so we believe it is a reasonable outflow candidate. The lobes to the west are from Outflow 39.

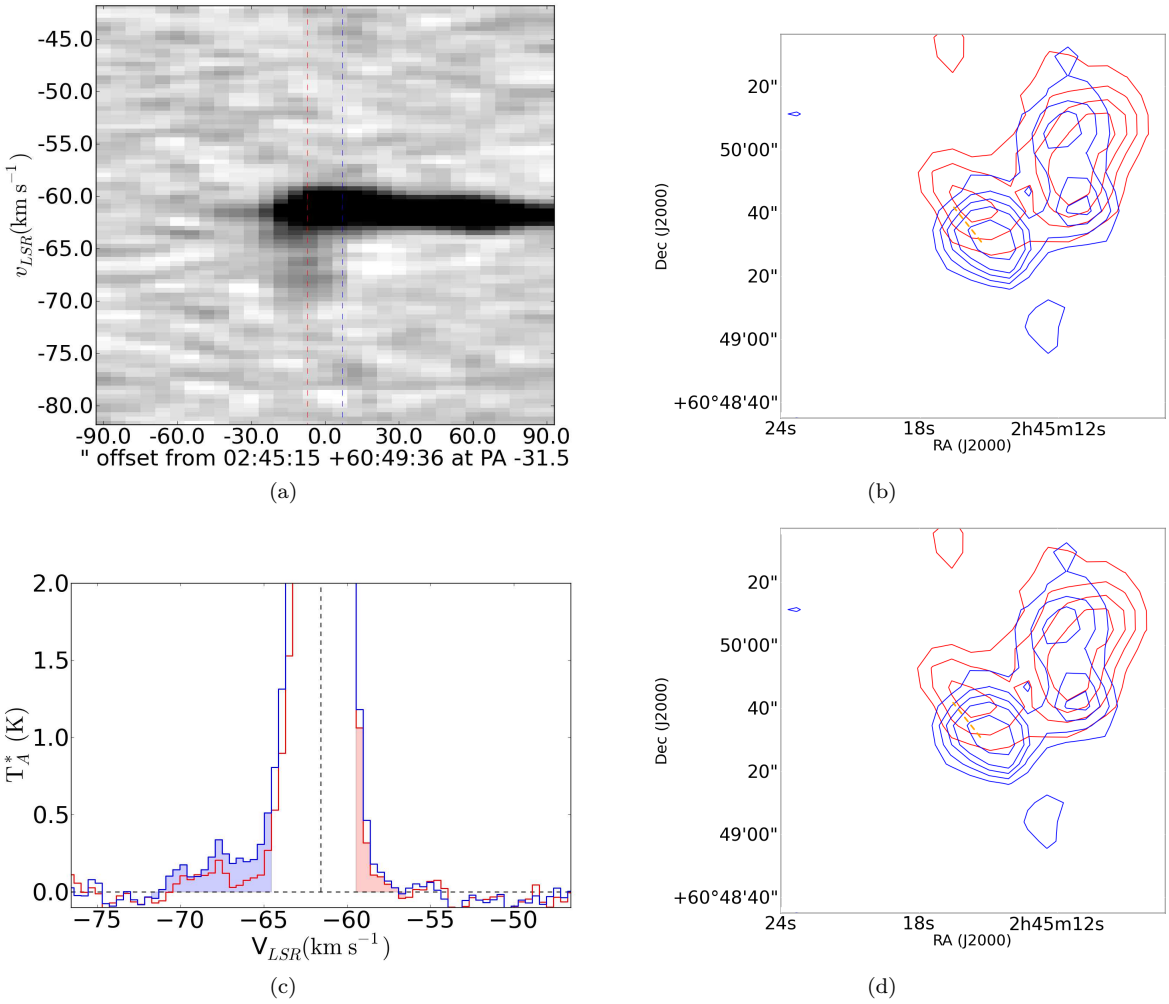


Figure 38. Position-velocity diagrams, spectra, and contour overlays of Outflow 41

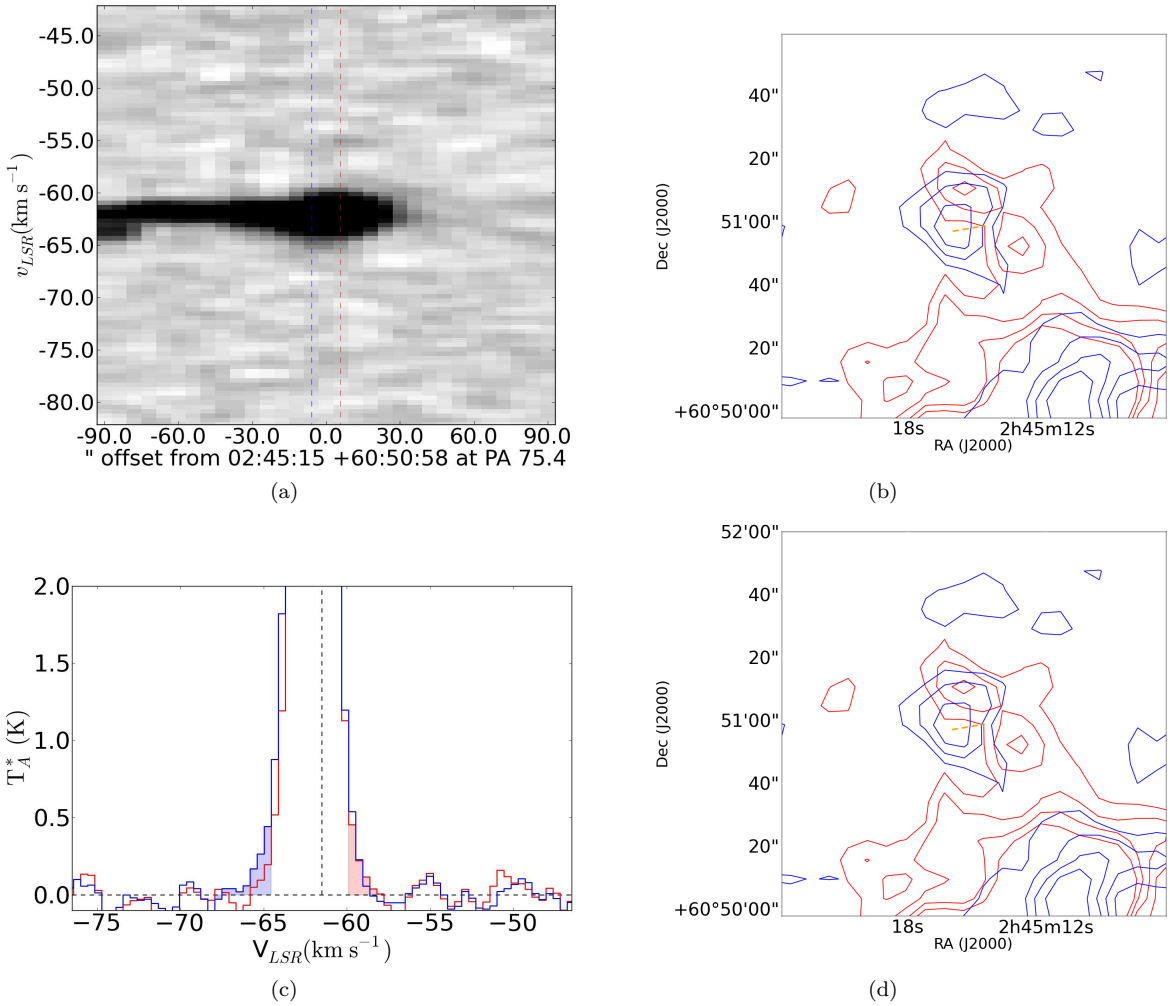


Figure 39. Position-velocity diagrams, spectra, and contour overlays of Outflow 42. It is not clear which of the two redshifted lobes is associated with the blueshifted flow. Contours are displayed at levels 0.25,0.5,0.75,1 K km s^{-1} (blue) and 0.25,0.5,0.75,1 K km s^{-1} (red).

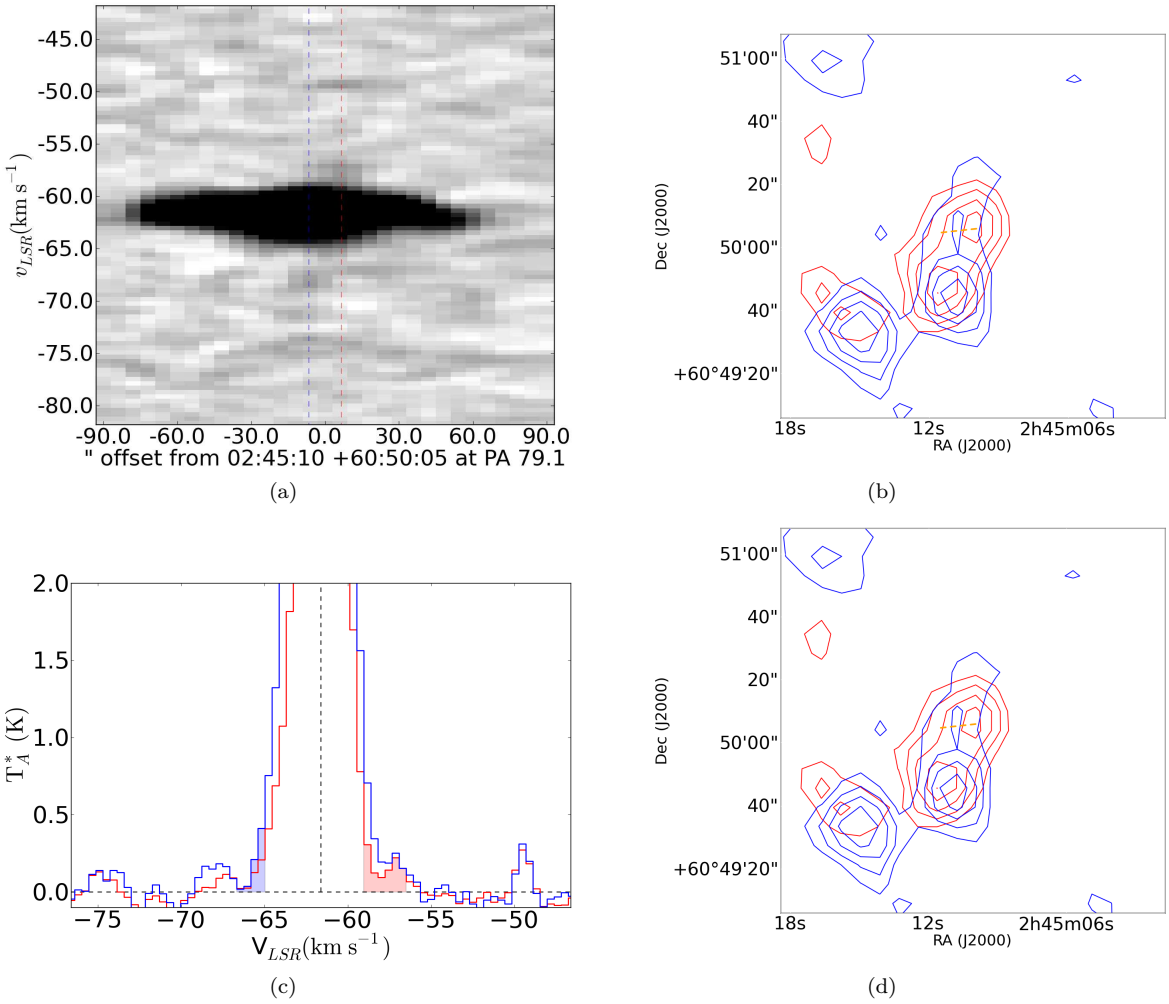


Figure 40. Position-velocity diagrams, spectra, and contour overlays of Outflow 43. Contours are displayed at levels 0.5,0.75,1,1.25,1.5,2 K km s^{-1} (blue) and 0.25,0.5,0.75,1,1.5,2,3,4,5,6 K km s^{-1} (red).

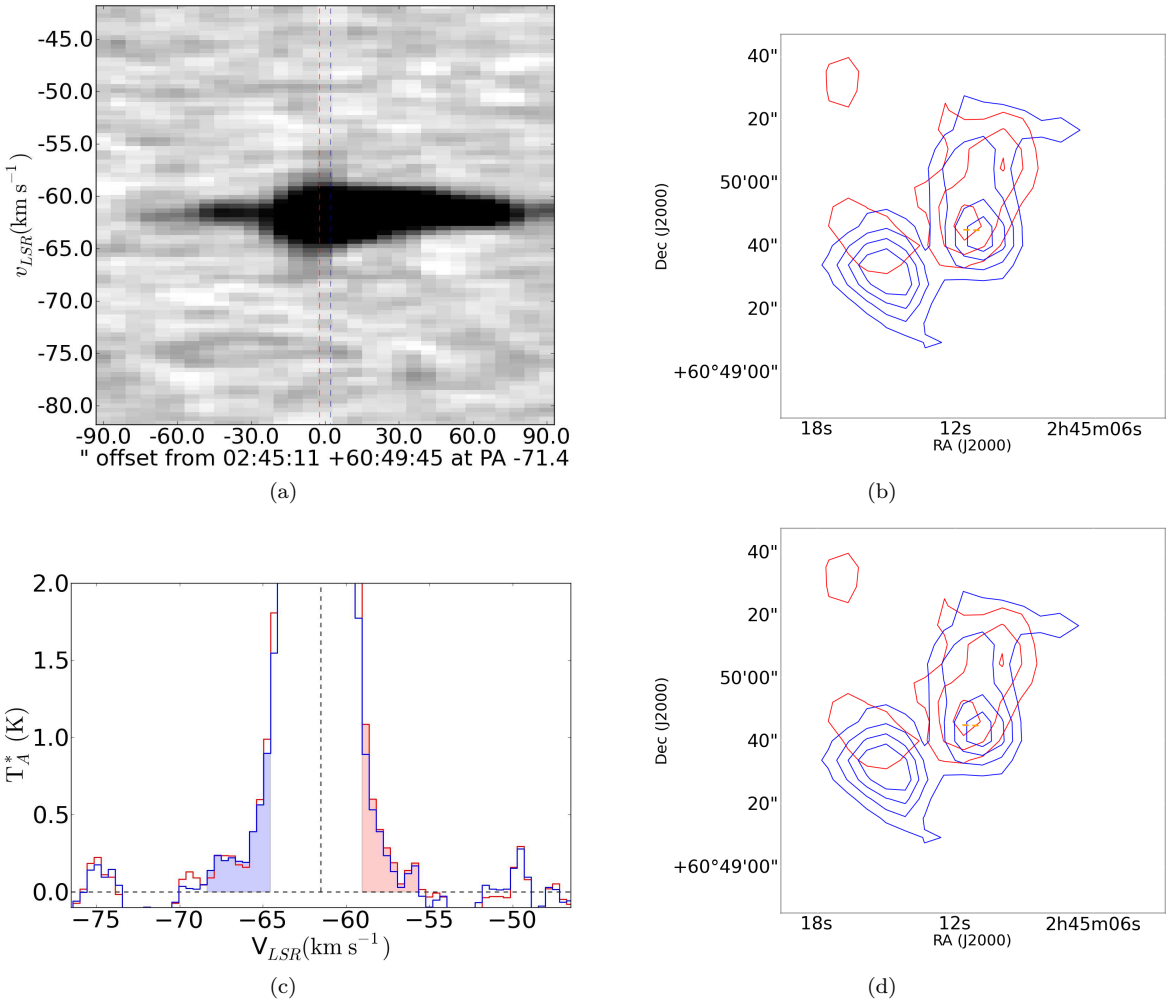
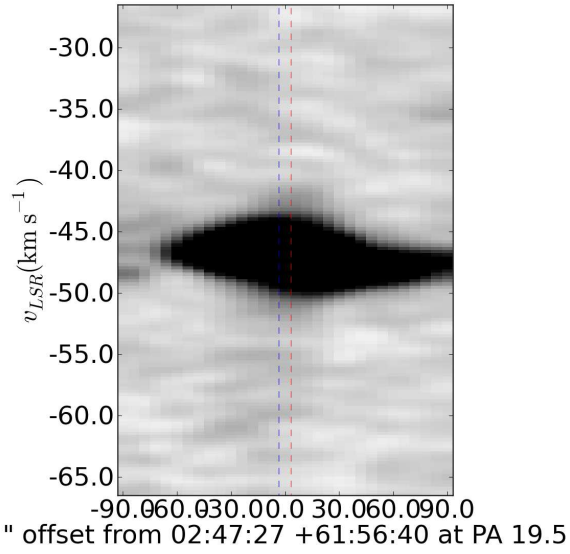
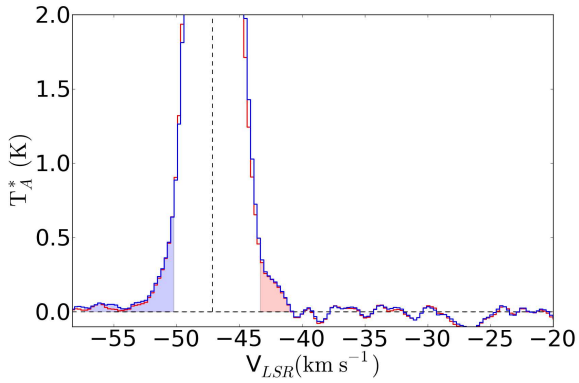


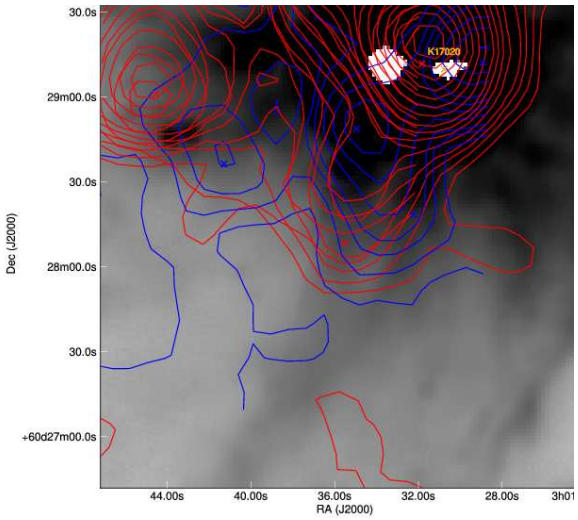
Figure 41. Position-velocity diagrams, spectra, and contour overlays of Outflow 44



(a)

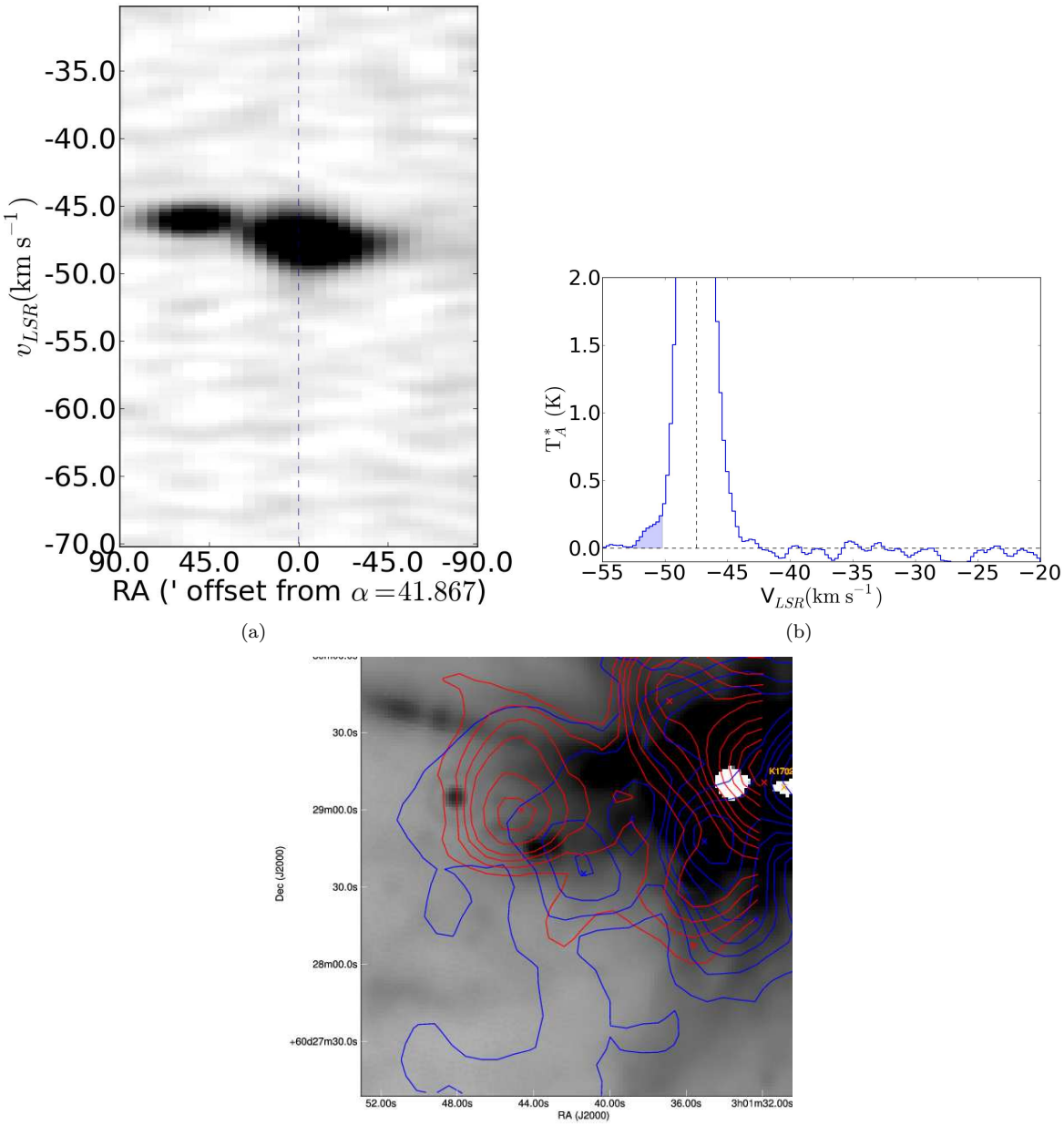


(b)



(c)

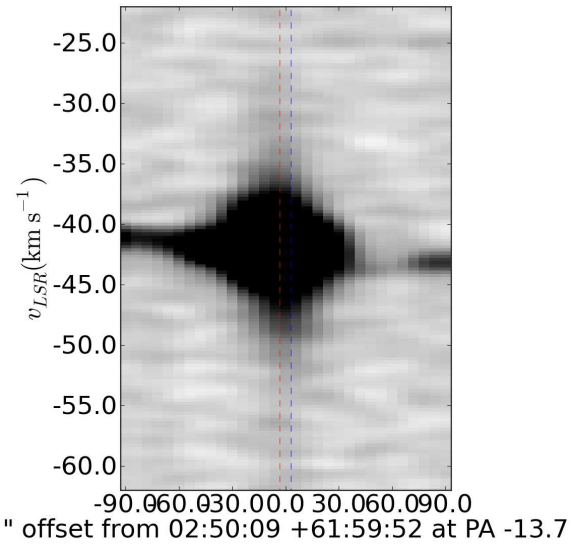
Figure 42. Position-velocity diagrams, spectra, and contour overlays of Outflow 45



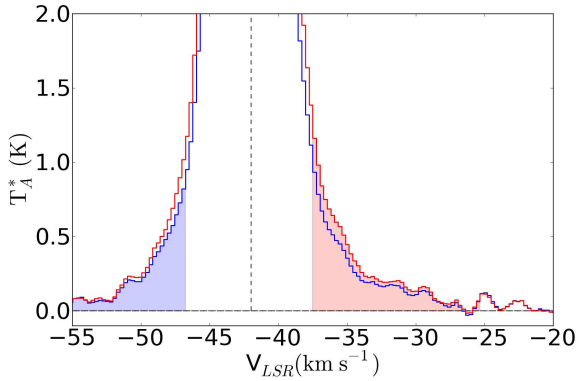
(a) (b)

(c)

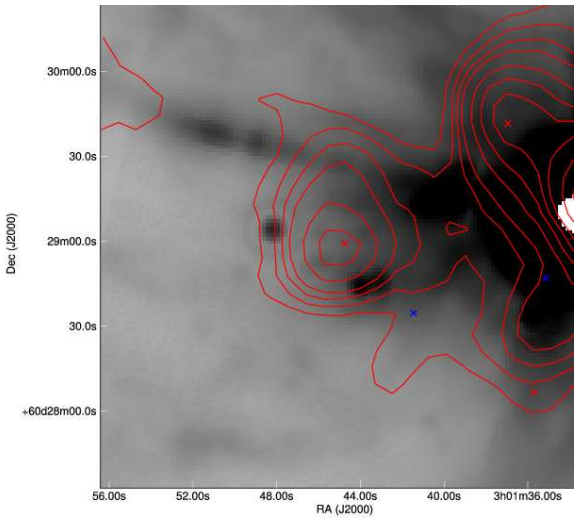
Figure 43. Position-velocity diagrams, spectra, and contour overlays of Outflow 46



(a)



(b)



(c)

Figure 44. Position-velocity diagrams, spectra, and contour overlays of Outflow 47

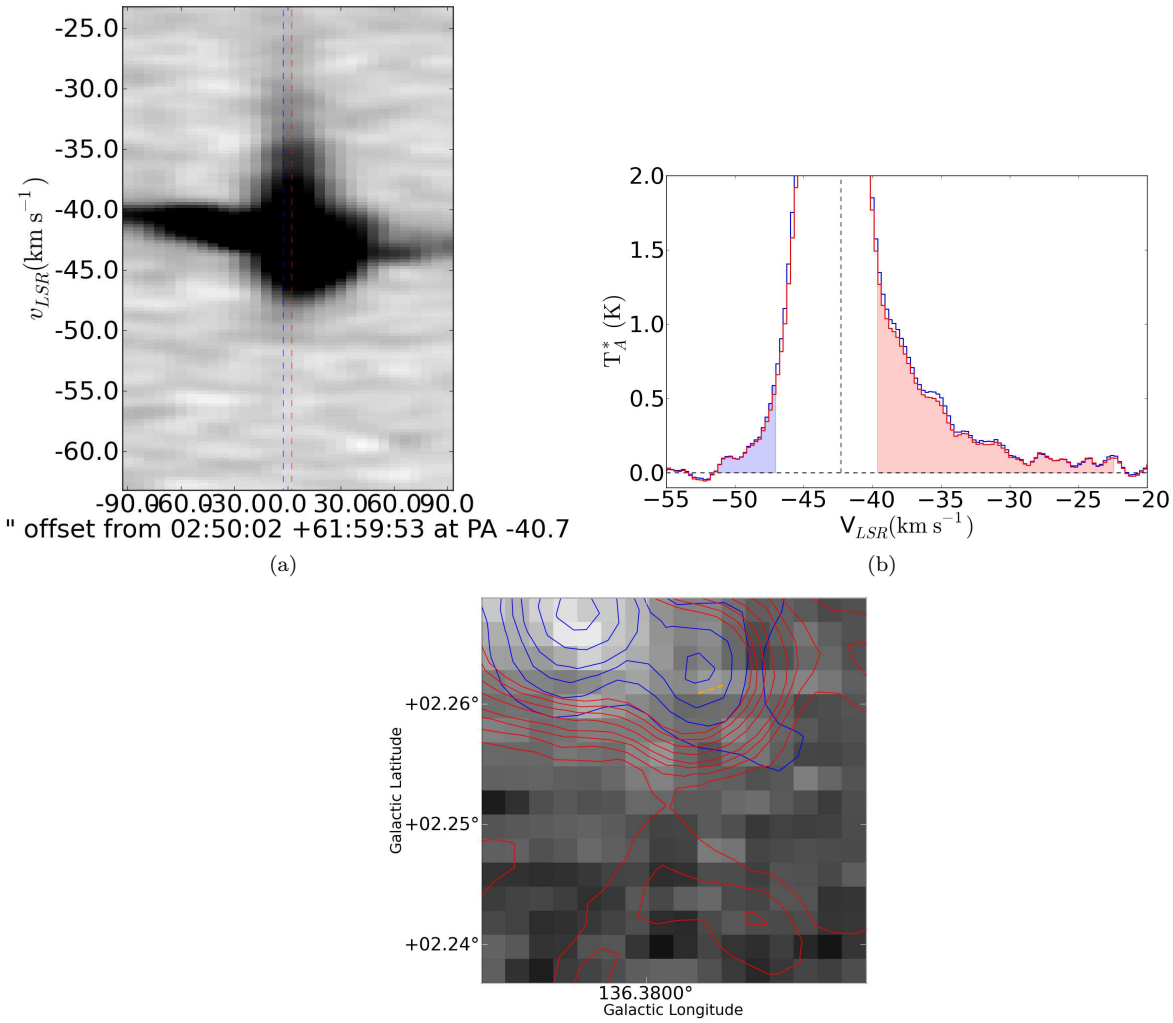
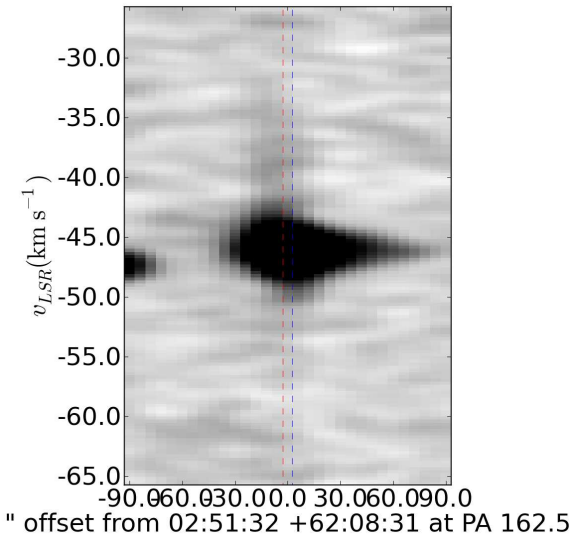
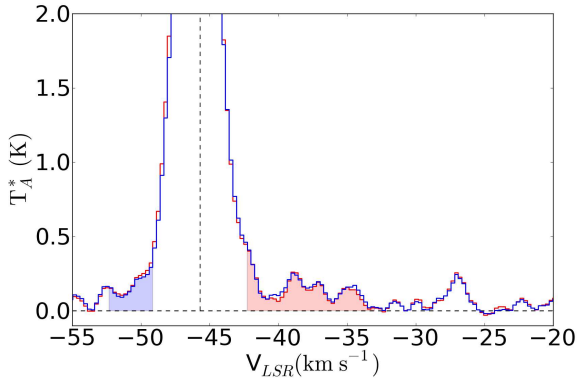


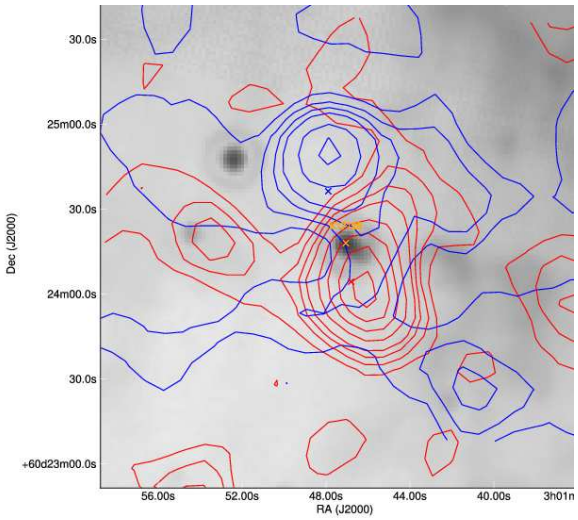
Figure 45. Position-velocity diagrams, spectra, and contour overlays of Outflow 48



(a)



(b)



(c)

Figure 46. Position-velocity diagrams, spectra, and contour overlays of Outflow 49

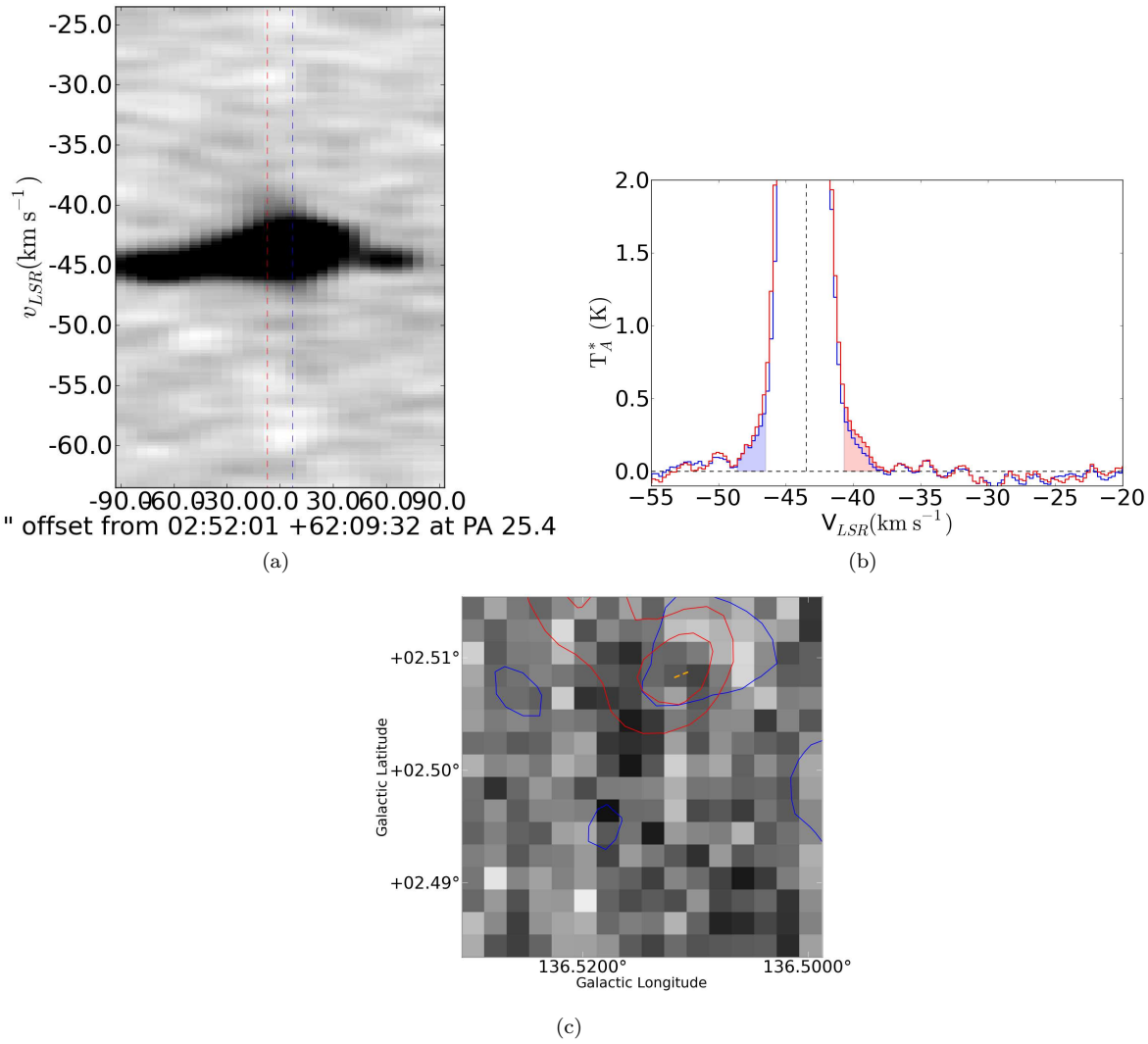
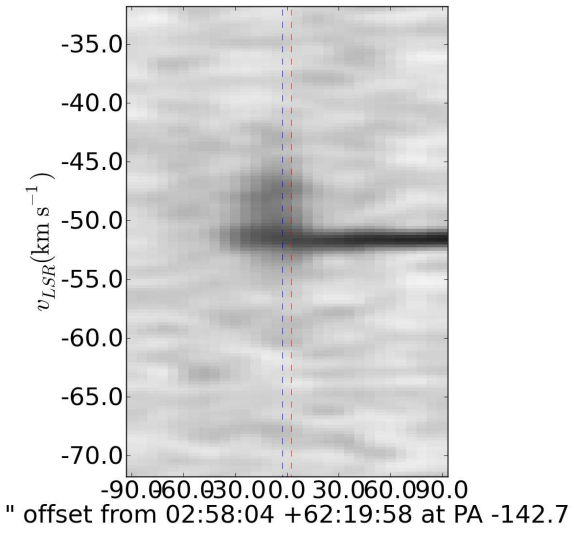
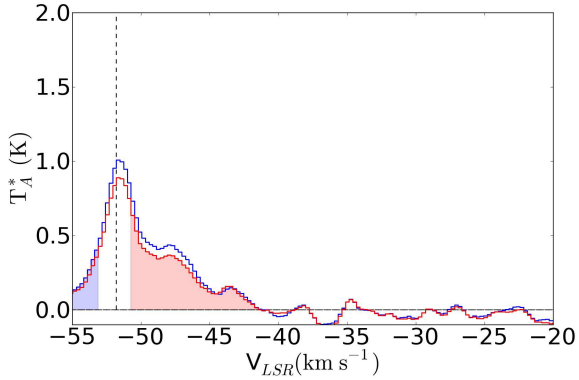


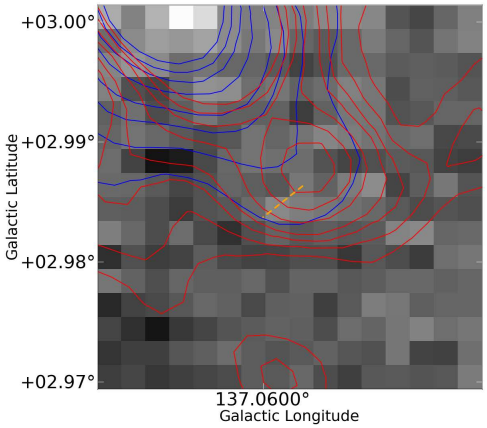
Figure 47. Position-velocity diagrams, spectra, and contour overlays of Outflow 50



(a)



(b)



(c)

Figure 48. Position-velocity diagrams, spectra, and contour overlays of Outflow 51

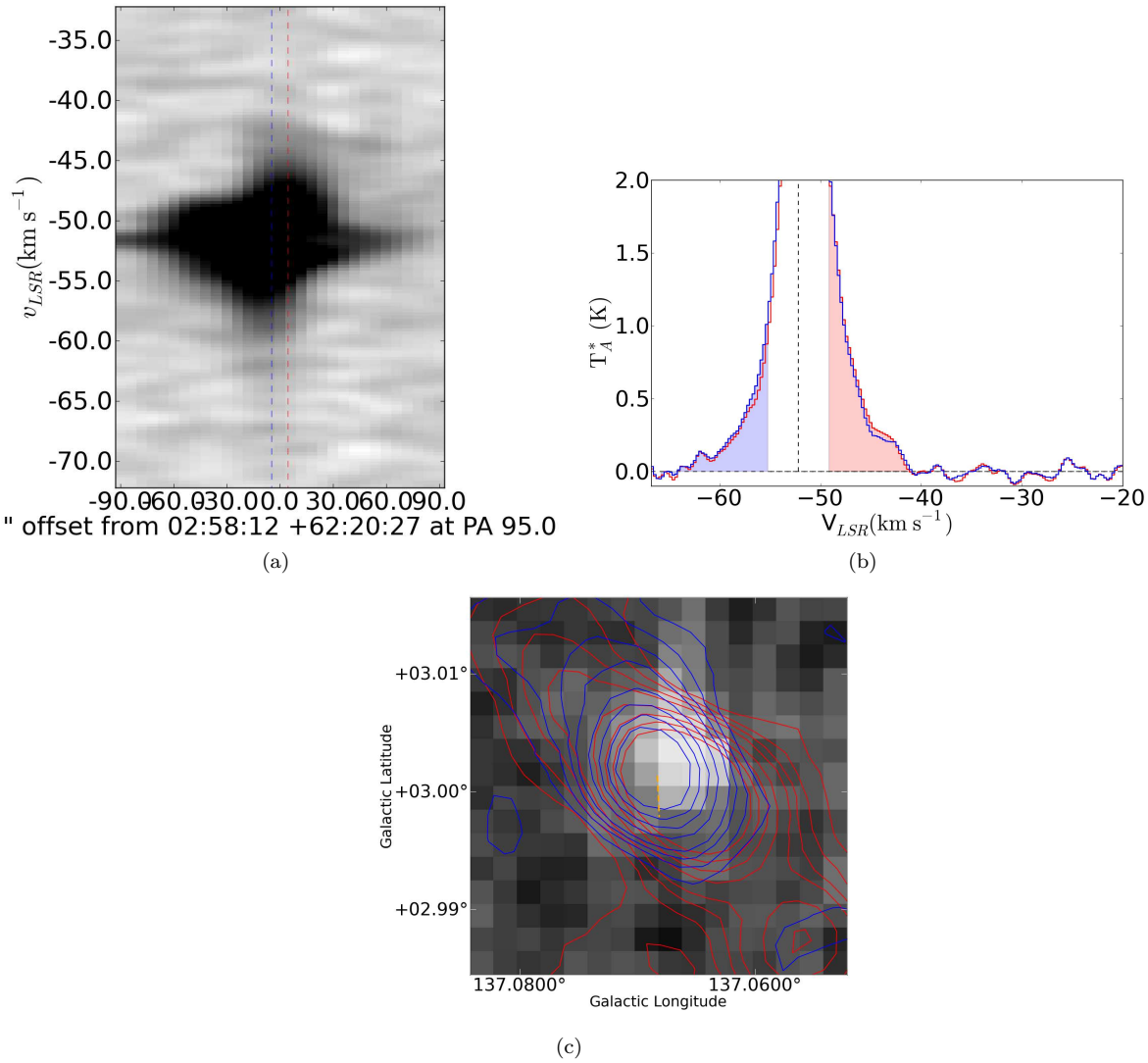


Figure 49. Position-velocity diagrams, spectra, and contour overlays of Outflow 52

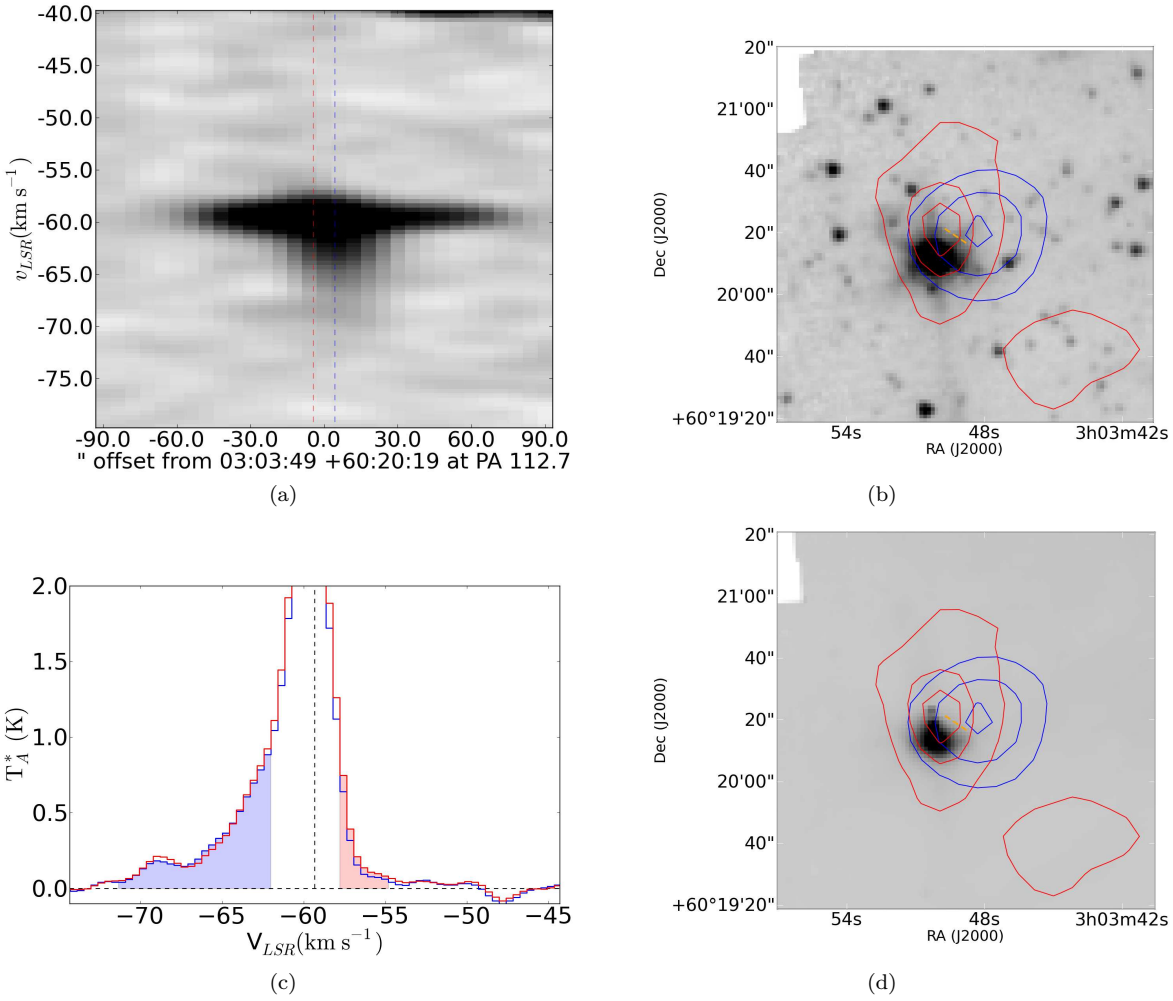


Figure 50. Position-velocity diagrams, spectra, and contour overlays of Outflow 53. Contours are displayed at levels 2 4 6 K km s^{-1} (blue) and 0.5 1 1.25 K km s^{-1} (red).

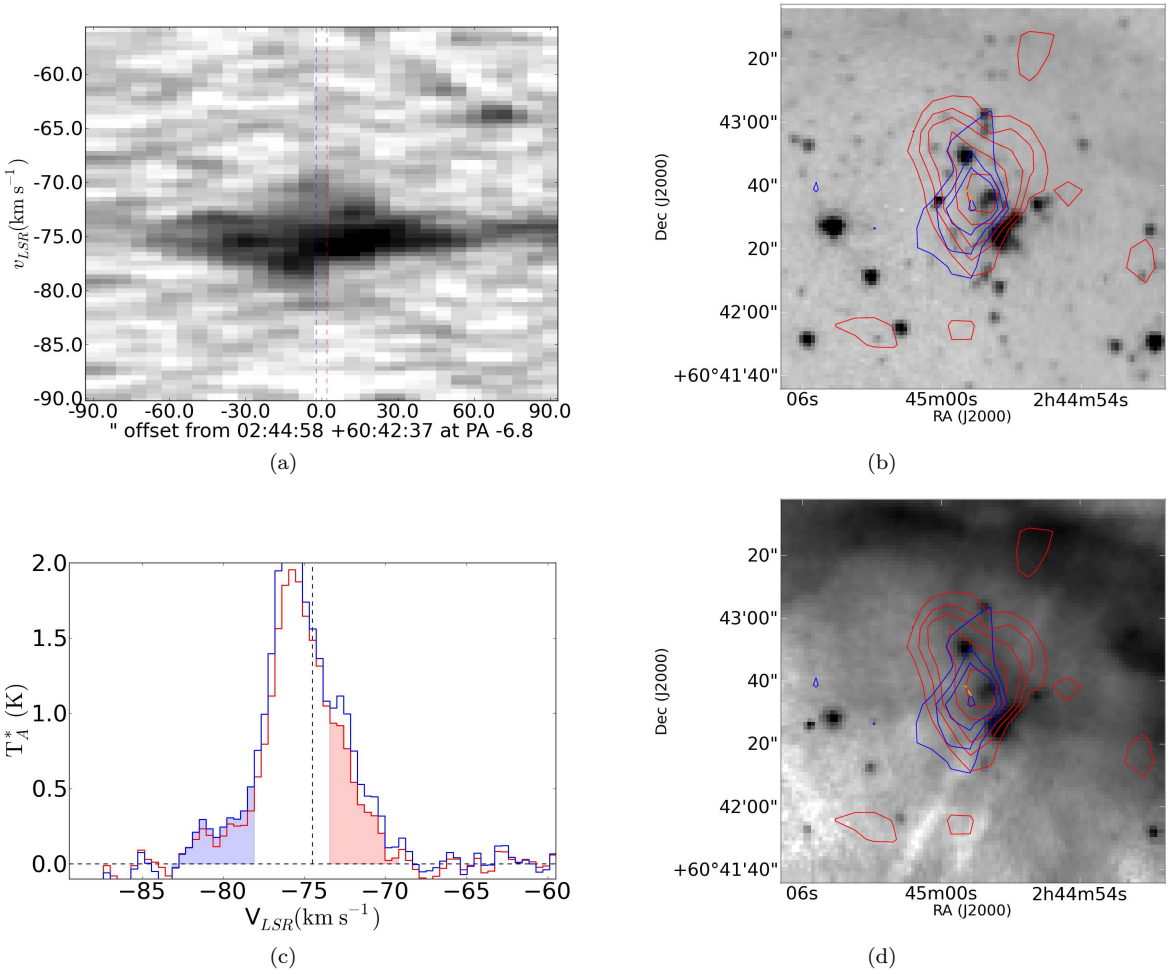


Figure 51. Position-velocity diagrams, spectra, and contour overlays of Outflow 54. Contours are displayed at levels 1,1.5,2,3,4,5,6 K km s^{-1} (blue) and 1,1.5,2,3,4,5,6 K km s^{-1} (red).

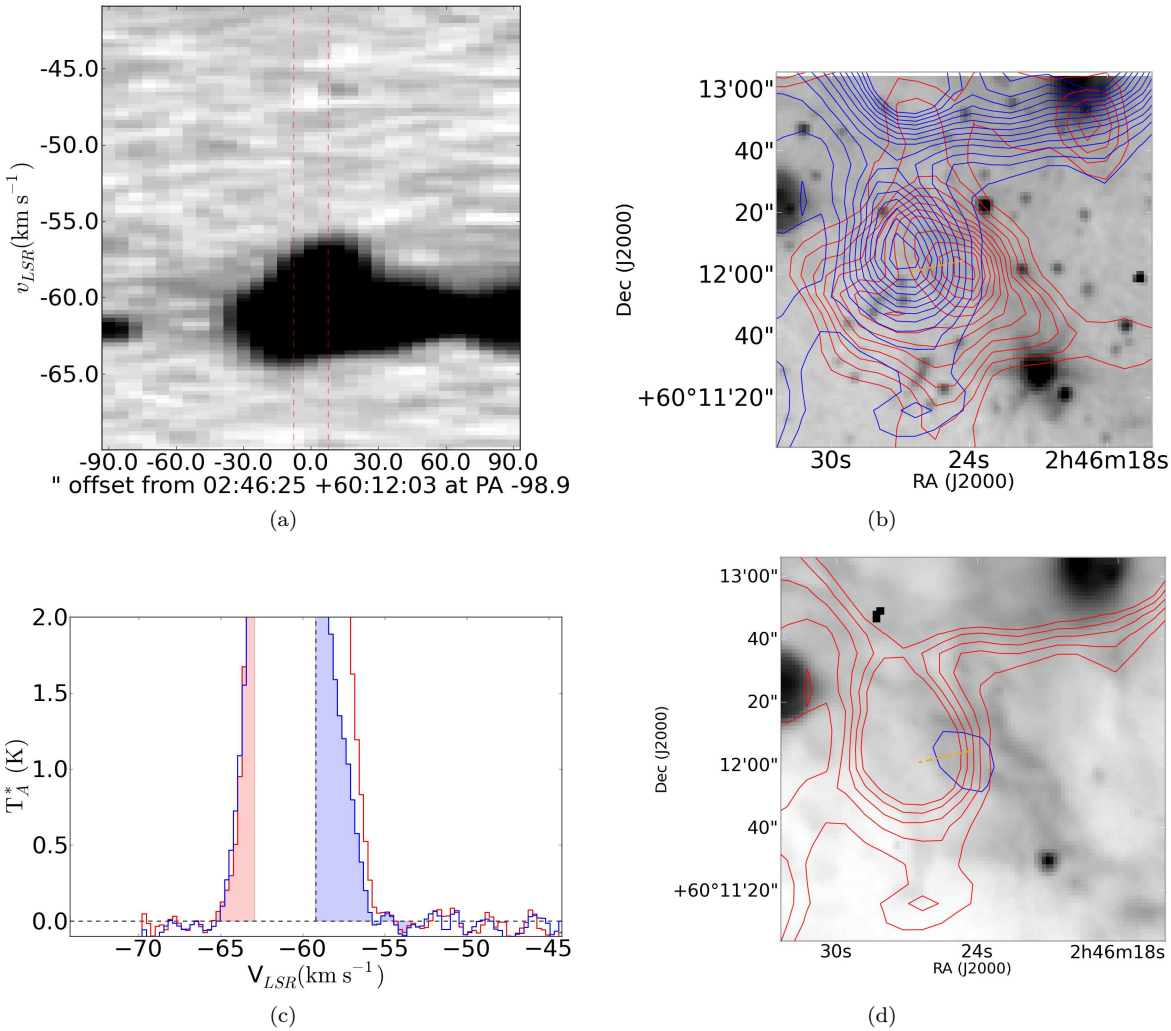


Figure 52. Position-velocity diagrams, spectra, and contour overlays of Outflow 55. Contours are displayed at levels 4,6,8,10,12 K km s^{-1} (blue) and 2,3,4,5,6 K km s^{-1} (red).