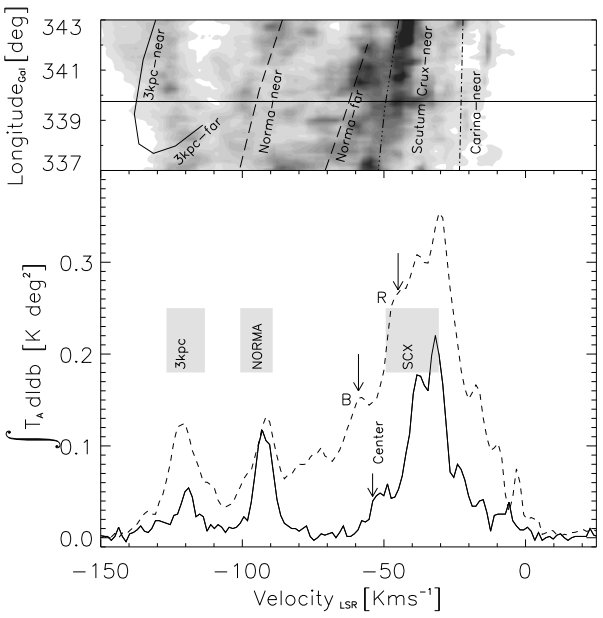

Fig. 1. Top: The longitude-velocity diagram indicating the position of spiral arms. Bottom: The ^{12}CO emission profiles in the direction of Wd1 in a narrow ($15' \times 15'$; solid line), and wide ($2^\circ \times 2^\circ$; dashed line, intensity scaled by a factor of 1/30) beams at $l = 339.75^\circ$ (horizontal line in the top panel). The range of radial velocities for 3 of the arms are indicated by the shaded boxes. The arrows point to the radial velocities obtained by fitting Gaussian profiles to the CO emission peaks relevant to this study (marked B, and R) and the average radial velocity of the stellar component of Wd1 (marked center).

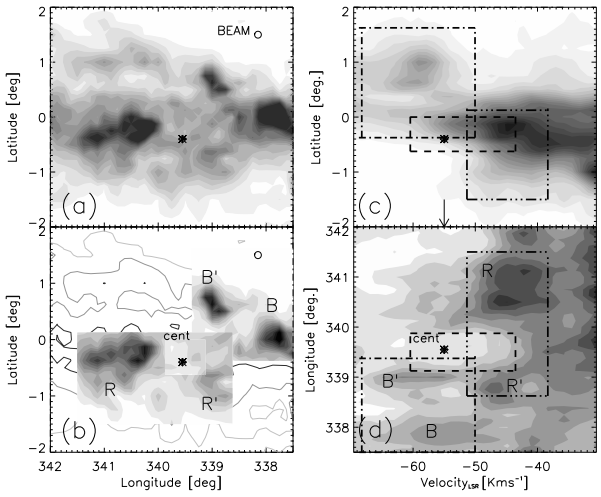

Fig. 2. Two-dimensional projections of the ^{12}CO data cube ascribed to the Scutum-Crux arm ($-70 < V_{\rm rad} < -30$ km s^{-1}). (a) Velocity integrated intensity map. The lowest gray-scale level corresponds to 7σ above the background, with successive levels increasing in steps of 7σ. (b) Contour maps showing the receding (R and R') and approaching (B and B') gas with respect to that at rest ($-60 < V_{\rm rad} < -43$ km s^{-1}; central). The position of Wd1 is indicated by an asterisk. (c) Latitude-velocity map, and (d) longitude-velocity map. An area of $3^\circ \times 3^\circ$ is integrated in the projected spatial axis in the last two panels, where we also identify the slices of receding, approaching, and rest gas.

3. ASSOCIATED RECENT STAR FORMATION

The three molecular complexes described above have several Ultracompact H II (UCH II) regions associated. These regions are associated by their projected position and by their velocity emission of detected CS(2-1) line (Bronfman et al. 1996). The redshifted giant molecular cloud is the most massive and has four detected UCH II regions, it has the highest far infrared (FIR) integrated flux. While the blueshifted giant molecular cloud has one detected UCH II region with lower FIR integrated flux. The central region contains the young compact cluster Wd1, and does not have associated UCH II regions. A zone of 200 pc analyzed here has a high concentration of molecular gas. A scenario to be tested is whether the central molecular gas region collapsed 5 Myr ago creating the compact star cluster Wd1. It is likely that the star formation in the surrounding molecular clouds is triggered by the feedback from the massive stellar population due to winds an supernova events.

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