culated based on the variation of the SFR shown in Figure 1 fill the region enclosed by the solid line in Figure 3.

As for the spatial distribution of star forming regions, nuclear starbursts are often reported observationally. On the other hand, in our models the outer part of the disk is activated more efficiently (Figure 2). A more realistic simulation is needed to find out whether other factors neglected in our model are important in solving this discrepancy.

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CO OBSERVATIONS OF BRIGHT IRAS GALAXIES

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CO emission has been detected from 75 bright infrared galaxies with CZ = 2 000 - 16 000 km/s. These include the most distant and the most luminous galaxies (Arp 55, IR 1713+63) yet detected in CO. All of these galaxies are rich in molecular gas with $M_{total}(H_2) = 2\times10^9 - 6\times10^{10} M_\odot$, and they have a strong far-infrared excess, with L_{FIR}/L_B = 2-40 and $L_{FIR}(40-400\mu) = 10^{10} - 3\times10^{12} L_\odot$. The primary luminosity source appears to be star formation in molecular clouds. A strong correlation is found between the FIR and 21-cm continuum flux, implying that the IMF is independent of the star formation rate. The ratio $L_{FIR}/M(H_2)$ provides a measure of the current rate of star-formation, which is found to be a factor 3-20 larger in these galaxies than for the ensemble of molecular clouds in the Milky Way. VLA maps plus a few high resolution (14"-30") CO (1-0) and CO (2-1) maps suggest that most of the luminosity comes from core regions 1-3 kpc in size. The abnormal concentration of molecular gas in these galactic cores is presumably the result of a collision or strong interaction with a nearby companion.

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