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Supershells and Propagating Star Formation

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Correlated supernovae from an OB association can carve large cavities ( $>100$  pc) in the ISM, and can punch holes completely through the disk of a spiral galaxy. SNR energy within such a cavity is thermalized before the shock reaches the supershell. Thus stellar wind theory may be used to model these superbubbles. We describe how the evolution of the superbubble depends on the density distribution of the galactic disk gas and the rate of supernovae in the OB association. At a radius of 100 - 300 pc, the supershell becomes gravitationally unstable, forming giant molecular clouds which are the sites for new star formation. This gravitational instability of the supershells provides a physical mechanism for propagating star formation and may account for the observation of bursts of star formation in galaxies.