

ENHANCED GALACTIC STAR FORMATION AS CAUSED BY THE MILKY WAY - LARGE MAGELLANIC CLOUD INTERACTION: AN EXPERIENCE FROM DENSITY WAVE STUDIES

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ABSTRACT. Star formation in interacting galaxies is usually strongly enhanced. The star formation rate in the Milky Way is substantially greater than, for example, in the Andromeda Nebula. A plausible cause for this difference may be the interaction of the Milky Way with the Large Magellanic Cloud. We suggest that one of the possibilities for this may be the enhanced formation of cold gas clouds as the gas flows through the gravitational potential well of a tidal wave caused by the interaction; another contribution may come from compression of pre-existing clouds when they pass this way. This scenario is obviously quite similar to that envisioned in "frames" of the density-wave theory.

This abstract is published here since the work described in the submitted paper has, according to the scientific referee for the paper, has been published elsewhere.