

THE HYDRODYNAMICS OF CLOUDS OVERTAKEN BY SUPERNOVA REMNANTS

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ABSTRACT.

The hydrodynamical events resulting from the interaction of a supernova remnant with a high density condensation - a cloudlet, are investigated by means of high resolution two-dimensional hydrodynamical calculations. Spherical and cylindrical cloudlets initially immersed in a constant density medium are considered. The evolution and final fate of the cloudlets is shown to depend not only on their original shape, but also on the distance to the explosion site, i.e., on whether the remnant, prior to the interaction, evolves along its Sedov or its radiative phase. However, none of the performed calculation leads to density enhancements which could clearly be related to the filamentary structure, typical of supernova remnants.

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