

THE HYDRODYNAMICS OF CLOUDS OVERTAKEN BY
SUPERNOVA REMNANTS

G. Tenorio-Tagle

Max-Planck-Institut für Astrophysik
Germany

and

M. Rozyczka

Warsaw University Observatory
Poland

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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M. Rozyczka: Warsaw University Observatory, AL. Ujazdowskie 4, 00478 Warszawa, Poland.

G. Tenorio-Tagle: Max-Planck-Institut für Astrophysik, D-8046 Garching bei München, F. R. of Germany.