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Structure of Supernova Remnant Shock Waves

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The traditional model of supernova remnants as spherical blast waves works in few cases, but not many. In young SNRs, the asymmetry of the supernova explosion itself is important, as jets, dense clumps and large rings of material interact with the interstellar gas or with shocked ejecta. In older remnants, the inhomogeneous density distribution of the ambient gas dominates the structure, and both dynamical (Rayleigh-Taylor, thin shell, Kelvin-Helmholtz) and thermal instabilities can become important. This talk gives an overview of the processes and the parameter ranges important for supernova remnant studies.