5×10^7 yr after the enrichment of the ISM by massive stars of the main spiral arms. In other words, the presence of minor features, interarm stars and the chemical inhomogeneity exhibited by them could be ascribed to the secondary, possibly supernova induced, star formation.

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NEW RESULTS ON THE COAGULATION EQUATION

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In attempting to reproduce the initial stellar mass function, we solved analytically the coagulation equation with an explicit time dependence in the coagulation rate in order to simulate the gravitational collapse of the fragments upon themselves as they move within the progenitor cloud. Two separate cases have been studied, with and without a mass dependence in the coagulation rate. The solution show that (1) inclusion of self-gravitation is very important and can change the results to the point of preventing coalescence to work altogether, depending on the values of the two free parameters, (2) the precise form of the mass dependence of the coagulation rate is not of prime importance in most situations of astrophysical interest, and (3) coagulation alone is not sufficient to yield a realistic mass spectrum and fragmentation must also be taken into account. Coagulation is more efficient for massive fragments and fragmentation for the smaller ones. These results are applied to different regions: star clusters, associations, and starburst regions.

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