Daily Sunspot Observations at Sobaeksan Observing Station from 1979 to 1981

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Daily sunspot observations conducted from 1979 to June of 1981 at Sobaeksan Observing Station are analyzed and the relative sunspot numbers R_k collected with the size of 15cm refractor are presented. Our value of the conversion factor k, which relates our relative sunspot numbers to those of Zurich Observatory, is found to be 0.87

Pre-galactic Constraints on the Galactic Evolution

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The characteristic radius and mass are adopted as two pre-galactic constraints on the Galactic evolution, and their implications, particularly, on the stellar formation rate are analyzed. Possible relation with the self-similarity of sub-galactic system is suggested.

A Simple Two-Zone Model for the Chemical Evolution of Our Galaxy

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For the chemical evolution of our Galaxy, we have constructed an analytic, simple two-zone model, where two different chemical processes are assumed to take place in halo and disk. This model suggests the followings: (1) It takes about two billion years to form the halo (slow-collapse). (2) The Galaxy undergoes two stages of disk formation: an initial stage of rapid collapse for the first six billion years and then ensuing steady stage of slow evolution lasting up to the present. (3) One third of the present metal abundance ($Z=0.03$) and half of the present total stellar mass in our Galaxy have been produced just after the halo formation.

Kinematical Properties of Stars in the Solar Neighbourhood

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The mean motion, the velocity dispersion and the vertex deviation for each spectral groups of nearby dwarfs are reduced from the recently available kinematic data. The emission line stars of the later spectral types show different kinematical behavior from the non-emission line stars. The difference is probably due to age difference between the two groups. It is also found that the velocity dispersion increases from early to late type main sequence stars while the vertex deviation decreases.