

MORPHOLOGY OF THE GALACTIC DISC

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A review of recent results in radio astronomy, UV astronomy and optical astronomy, including the author's radio spectral indices work, related to the morphology of the Galaxy, is presented. It is shown that the galactic disc, apart from spiral structure, is dominated by bubbles, superbubbles and other remnants of violent events. Many important features of the local surrounding can be relatively simply explained by the hypothesis about near violent explosions.

Introductory lecture

CALCULATION OF STARK BROADENING PARAMETERS FOR STELLAR PLASMA INVESTIGATION

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Here is presented a review of semiclassical calculations of Stark broadening parameters and comparison of different semiclassical procedures is discussed, as well as the agreement with critically selected experimental data and more sophisticated, close coupling calculations. Approximate methods for the calculation of Stark broadening parameters, usefull especially in such astrophysical problems where large scale calculations and analyses must be performed and where a good average accuracy is expected, have also been discussed.

REGULATION OF HUMIDITY IN THE ATOMIC CLOCK ROOM OF THE BELGRADE OBSERVATORY

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On the basis of the collected data on the water elimination from the atomic clock room (the third cellar) of the administrative building of the Belgrade Astronomical Observatory with the instrument (Hygromatik), the examination of the changes of the eliminated water, temperature and humidity is performed during 1990.1-1993.0 . The interdependence of the amount of the eliminated water, temperature and humidity is derived. These examinations show that the instrument made possible the regulation of humidity keeping the constant level of temperature.