chrotron radiation, is widely applied for explanation of observational data. When the drift velocity is compared with the velocity of cyclotron rotation around guiding center it is necessary to take into account the curvature of magnetic field line. The attempts (Cheng, K.S., Zhang, J.L. 1996, ApJ, 463; Sobolev, Ya.M. 1999, Radio Phys. and Radio Astron., 4) has been made to describe the radiation of relativistic charged particles moving along spiral trajectory in curved magnetic field. In the present work it is shown that there is a region in pulsar magnetosphere where the synchrotron radiation at small pitch angles is replaced by a sum of curvature and undulator radiation. The term "undulator" radiation is used for a case when radiation is going from many electron revolutions around magnetic field line. The emitted spectrum consists of both broadband curvature radiation at low frequencies and relatively narrowband undulator radiation at higher frequencies. Thus, in pulsar magnetosphere relativistic particles may simultaneously lose energy by means of the curvature radiation with a highdegree of linear polarization and undu

LIGHT CURVE SHAPES OF THERMONUCLEAR SUPERNOVAE IN DIFFERENT WAVELENGTHS

Sorokina E.I., Blinnikov S.I.
Submitted by: Sorokina Elena (sorokina@sai.msu.su)

Light curves of several models of thermonuclear supernovae are calculated in IR, optical, and UV ranges by a method of multi-group radiation hydrodynamics. It is shown how the mode of explosion influences the supernova light curve for Chandrasekhar- and sub-Chandrasekhar-mass models. Optical emission from Chandrasekhar-mass models is quite similar near maximum light, while the light curve decline is influenced drastically by small variations in the chemical composition of the ejecta. UV light curves reveal differencies in the emission even near the maximum. This spectral range is more sensitive to the mode of explosion, since it reflects more directly the distribution of Ni56 synthesized during the explosion and the conditions in the exploding star. We have also investigated how the light curve shape depends on the different treatments of line opacity (absorptive or scattering) as well as on the expansion effect. We try to explain the origin of the secondary maximum, which is typical for the emission of the most of SN Ia in the I band.

TIMING OF PARKES MULTIBEAM SURVEY PULSARS

Stairs I.H., Lyne A.G., Manchester R.N., Camilo F., D'Amico N., Bell J.F., Kaspi V.M., Crawford F., Morris D.J., McKay N.P.F., et al.
Submitted by: Stairs Ingrid Helen (is@jb.man.ac.uk)

We report on the timing followup observations of the Parkes Multibeam Pulsars. Over 500 pulsars have been discovered to date, of which nearly 1/3 are timed at Jodrell Bank Observatory in the U.K. Important discoveries include a number of high-magnetic-field pulsars, a double-neutron-star binary, a pulsar in a highly relativistic orbit, and another with an supergiant stellar companion.

COMPTON-RADIATION OF THE SUPERNOVAE REMNANTS

Stankevich K.S.
Submitted by: Stankevich Kazimir Stanislav (stnk@nirfi.sci-nnov.ru)

The frequencies spectrum of the synchrotron radiation of the relativistic electrons determine their energy Spectrum monosemantic. For emission supernovae remnants is established descending part of radiospectrum quite well, which correspond energies of the relativistic electrons more 10 power 7eV. The form energetics spectrum with $E < 10$ power 7eV is unknown, and therefore important values (density and energy of the cosmic rays) is uncertainty into remnants. In this Poster the possibility to get the data on energy distribution function of relativistic electrons, including low energies, in consider. Electromagnetics radiations into shells of supernovae remnants have the density in definite frequency intervals. Inverse compton-scattering photons on relativistic electrons (compton-radiation) take place, and photons energy increase significantly. Therefore compton-radiation of the relativistics electrons with low energies get to frequencies available for astronomical observations. Compton-radiations by scattering photons of black-body microwave radiation and photons synchrotrons spectrum of the shell on relativistic electrons of the young galactic and radiosupernovae was investigated.

LONG-TERM NEGATIVE TREND IN COSMIC RAY FLUX AND SUPERNOVA EXPLOSION

Stozhkov Y.I., Pokrevsky P.E., Okhlopkov V.P.
Submitted by: Pokrevsky Peter Evgenievich (pokrev@fiand.msk.su)

The cosmic ray fluxes in four consecutive solar activity minima (1964–1965, 1976–1977, 1987, and 1996–1997) are considered. The data obtained in long-term stratospheric measurements and at ground level (neutron monitor and ionization chamber data) are used. The long-term negative trend is derived from these experimental data. The value of the effect is –(0.01–0.09)% per year. The data on cosmogenic radioactive isotopes of 10Be and 14C which are produced by cosmic rays in the atmosphere also show the gradual decrease of their concentrations on the timescale of more than 10^4 years. The stratospheric measurements also propose that the cosmic ray spectrum becomes softer in the energy range E=0.1–1.5 GeV with the passage of time. The consideration of solar and interplanetary parameter changes, which could be responsible for the observed negative trend in cosmic ray flux, does not show any increase. The effect could be explained if supernova ex-