Inhomogeneous semiempirical models of the chromospheric and photospheric flare regions

E.A. Baranovskij[1], **N.N. Kondrashova**[2], **and M.N. Pasechnik**[2]

[1] Crimean Astrophysical Observatory, Nauchny, Ukraine
[2] Astronomical Observatory of Kyiv National Taras Shevchenko University, Kyiv, Ukraine

We present semiempirical inhomogeneous models of the flare chromosphere and photosphere. A set of spectra with H_α and 11 Fraunhofer metallic lines formed in various photospheric layers (100-500 km) are used. Our photospheric models include three components: granule, intergranular lanes and magnetic fluxtube. The temporal variations of the thermodynamical parameters are found during the main phase of flare. All atmosphere down to lower photosphere was disturbed. The greatest changes occurred 16 minutes after the maximum of H_α emission. Chromospheric and photospheric layers during the flare were hotter than those in the undisturbed photosphere. There were some layers with increased or decreased density in the middle and lower photosphere. At the main flare phase radial velocity in granule and intergranular lanes was enhanced.