CHARACTERISTICS OF QUEIESCENT CORONA AT THE MINIMUM OF ACTIVITY IN 2009 AS OBTAINED BASED ON SPHINX X-RAY SPECTRA

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We present observations of X-ray fluence and spectra of the Sun in the range 1.2 - 5 keV obtained with the PIN detector, a part of SphinX spectrophotometer aboard CORONAS-Photon Russian solar observatory. For the study, we selected 141 time intervals, when the X-ray rates were below 200 cts/s, approximately 10 times below the detection threshold of GOES X-ray monitors. These spectra were fitted in the traditional one-temperature approximation as well as using multi-thermal approach, where the plasma in the temperature range 1.5-10 MK was allowed. Using complimentary X- and EUV- images, we extended the multi-temperature analysis of (non-flaring, non-active region) corona down to T \approx 0.5 MK. We will present and discuss the basic physical characteristics of solar quiescent corona, stressing importance of the higher temperature (T > 5 MK) plasma component with very small amount of emission measure. Based on SphinX and other X-ray data the characteristic average coronal plasma density and the other important plasma characteristics have been determined. In particular the minimum energy input rates necessary to sustain coronal X-ray emission will be provided.