CORONAS-F: survey of high energy gamma ray and neutron emissions from solar flares by SONG

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CORONAS-F, a low altitude polar orbiting satellite of Russia was devoted to study the corpuscular and electromagnetic radiation from the Sun in wide energy ranges. One of the devices measuring for the whole time (August 2001 to December 2005) was instrument SONG observing high energy gamma and neutron emissions of solar origin. We present a list of most intensive gamma ray flares observed during the period of CORONAS-F mission and discuss the implications of the measurements. Especially, the events on August 25, 2001; October 28, 2003; November 4, 2003 and January 20, 2005 are presented. In some of the events most probably the solar neutrons were observed too. Comparison with other measurements including those at the ground are done. The improved version of the instrument SONG could be one of the candidates for solar neutron and gamma measurements in the project INTERHELIOZOND under preparation. Work is supported by grant RFBR N 05-02-17487 and VEGA project 4064.