23. ON POSSIBILITY TO DETECT SOLAR NEUTRINOS WITH THE HELP OF $CdWO_4$ SCINTILLATORS

A. Sh. Georgadze, V. V. Kobychev, O. A. Ponkratenko

The possibility to use large amount of $CdWO_4$ crystal scintillators to detect solar neutrino of low energies via neutrino capture reactions on ^{116}Cd is investigated. The detector concept is based on placing $CdWO_4$ crystals in liquid scintillator inside the sphere of 18 m in diameter, on which 9500 photomultipliers are installed. Such design makes possible event to place reconstruction inside $CdWO_4$ crystal with accuracy 1 mm for 1 MeV electrons. Thus, expected background from random signal coincidences can be reduced to the rate ~300 events per year, which is of the same order magnitude as expected neutrino signal (260 ± 65 events per year in 30 ton of $CdWO_4$), taking into account neutrino detection efficiency.