

Middle variations of the solar activity cycles

E.V.Kononovich (*Sternberg Astronomical Institute, Moscow State University, Russia, e-mail: konon@sai.msu.ru*)

Different variants of the 11-year solar cycle analytical approximations are considered to present the mean annual Wolf number values. The gamma, lognormal and exponential distributions are used. The exponent distribution depending on 3-d order polynom is also considered. The parameters of these analytical approximations for the 11-year solar cycles 1 – 22 are given in the table. The all three representations follow equally well the observed mean annual 11-year Wolf number data. However only the exponential distribution suits the linear parabolic equation describing the diffusion process, corresponding to the travelling of an excitement from the bottom of the convection zone to the photosphere.