

GRAND MINIMA OF SOLAR ACTIVITY AND SOCIODYNAMICS OF THE CULTURE

B.M. Vladimirsky^{1,2}

¹ Crimean Astrophysical Observatory, Nauchny, Crimea, Ukraine

² Vernadsky Tavrida National University, Simferopol, Ukraine

Abstract. The indices of creative productivity by Ch. Murrey were used to verify S. Ertel's (1996,1998) conclusion about Global increase of the creativity during long-time Minimum of Solar activity in 1640–1710 years. It was found that these indices for the mathematicians, philosophers and the authors in natural science are increase by factor 1,6 in comparison with the same intervals before-after the minimum. Such regularity takes place also for other 5 early Minima (mathematicians and philosophers, factor 1.9). It was obtained that during all the time covered by the analysis (2300 years) the most important achievements of high-range mathematicians and philosophers fall on epochs of reduced levels of solar activity. The rise of the probability of generations of rational ideas during Grand minima is confirmed also by the coincidences with these intervals such important events in cultural evolution as appearance of written language and the agriculture. Physical agent which are stimulating probably the activity of brain's left hemisphere during these epochs are most likely electromagnetic fields in very low frequency range.

Keywords: Maunder minimum of Solar activity; solar-terrestrial relations; «bursts» of the creativity; Jaspers axial time.