COMPACT SOURCES OF UHECR

P. G. Tinyakov (1,3) and I. I. Tkachev (2,3)
(1) Institute of Theoretical Physics, University of Lausanne, CH-1015 Lausanne, Switzerland;
(2) CERN Theory Division, CH-1211 Geneva 23, Switzerland
(3) Institute for Nuclear Research, Moscow 117312, Russia

We calculate angular autocorrelation function of UHECR observed by AGASA and Yakutsk experiments and find significant correlations at small angles corresponding to the experimental resolution. We then look for extragalactic sources which are responsible for these autocorrelations and find correlations with brightest BL Lacertae with the probability of a chance coincidence $10^3$. We conclude that BL Lac objects are sources of the observed UHECR.