

## STATISTICAL CHARACTERISTICS OF OSCILLATORY ZONING IN AGATE FROM MONGOLIA

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One of the striking features of agates is oscillatory zoning. The causes of that sort of structure can be as internal, connected with features of crystallization process, so as external, connected with changing P-T parameters of environment. Last time, they say (model of Wang-Merino) that one of the most impressive patterns that is believed to be a result of self-organization in nature occurs in agates. The results of ion-probe analyses of trace elements in agate from Mongolia have confirmed the crystallization model of Wang-Merino. The trace element's concentrations really oscillated at front of crystallization. During growth of agate the trace elements accumulated at center of agate. Founded rhythms may say about internal control of system as in region close to front of crystallization, so as in whole almond. It has been shown that the concentrations of trace elements can be described in terms of self-affine fractals. Founded values of Hurst exponents ( $H=0.47$  for any length scale) characterizes the system like anti-persistent. The investigation of grey level of agate confirmed that grey level has periodical component, what we can see with the naked eye. The grey level can be described in term of self-affine fractals. Received values of Hurst exponent  $H=0.52$  on length scale smaller than 1mm say about persistent behavior like grey level.