



# Research on the visitor flow pattern of Expo 2010

Chao Fan, Jin-Li Guo

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Expo 2010 Shanghai China was a successful, splendid and unforgettable event, remaining us with valuable experiences. The visitor flow pattern of Expo is investigated in this paper. The Hurst exponent, mean value and standard deviation of visitor volume prove that the visitor flow is fractal with long-term stability and correlation as well as obvious fluctuation in short period. Then the time series of visitor volume is converted to complex network by visibility algorithm. It can be inferred from the topological properties of the visibility graph that the network is scale-free, small-world and hierarchically constructed, conforming that the time series are fractal and close relationship exit between the visitor volume on different days. Furthermore, it is inevitable to show some extreme visitor volume in the original visitor flow, and these extreme points may appear in group to a great extent.

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