

## Evolution Mechanism of Karst Sinkhole in Wuhan City, China

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Based on analyzing of 29 karst sinkholes in Wuhan City, China, their system structure was determined from three elements, i.e. karst, cover and groundwater. The sinkholes mechanism of rainfall, drilling and pile constructing importing karst system was discussed by field monitoring and numerical simulating. The results are as follows:(i) the geological conditions developing sinkhole include of three aspects, cover structure is upper clay and lower sand, shallow karst is developed, and hydraulic connection between pore water - karst water is good; (ii) In natural environment, the cave in cover soil has two developing stage that is from hydraulic corrosion to stress failure;(iii) Drilling and pile constructing often trigger sinkhole that is from two aspects of structure changing, i.e. the covering soil has high hydraulic gradient at the moment of drill connecting pore water and karst water, the head difference of two groundwater is more than 15m during pile constructing.

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