INFINITE STRUCTURES: BETWEEN MATHEMATICS AND COMPUTER SCIENCES

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Mathematicians have studies infinite structures in many different contexts. They are also studied in computer sciences : Turing machines, automata, infinite words, termination processes, "small" infinite sets and so on. Here we speak about sort of potential infinity, where the infinite is built up over the time, as a result of some process. In mathematics, especially set theory, we study the actual infinity, concrete infinite objects such as uncountable cardinals. It recent research we have been influenced by the approach of computer scientists to define a classes of 'tame' uncountable objects which are considered not only in their global setting but also with respect to the process of their creation. In this way we have obtained classes where various positive results hold, there where negative results hold globally. We shall speak in particular about our recent work with Wieslaw Kubis about objects built using a morass.