MODELING GROWTH WITH RANDOM SETS

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ABSTRACT

It is often the case that the future growth of an entity depends not only on its current size but on its shape as well. For example, discovery of a spheroidal tumor of volume V in a patient would likely be viewed differently by an oncologist than discovery of two adjacent spheroidal tumors each of volume $V/2$. Much of the literature on growth models ignores the shape aspect. Through stochastic geometric models, their simulation and their fitting to data, it is shown how growth processes can be modeled morphologically.

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