

On fractal analysis of tumours and tumour cells

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At the start we discuss the importance of fractal geometry for providing appropriate models for biological objects and processes. In particular, such models enable investigation of tumours and of nuclei of tumour cells.

The connection of different notions of dimension is discussed, and the pros and cons of the use of outer box dimension are treated. Some improvement of empirical estimation of box dimension by log-log-diagrams is recommended.

Empirical data of nuclei of different kinds of tumours prove considerably higher outer box-dimension of sections of injured cells kernels compared to sound ones. Moreover, dimension is increasing with the progression of cancer.