《软物质力学进展》

图书基本信息

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内容概要

《软物质力学进展(英文版)》作为软物质物理学的一个重要分支，近年来软物质力学的研究取得了重大的发展。《软物质力学进展(英文版)》即是从力学的角度系统总结了软物质物理学的最新进展，深入介绍了软物质力学研究的新方法，包括多尺度胶体计算力学、熵弹性理论、无网格模拟液晶聚合物、DNA模拟计算等，并从跨学科的角度出发，介绍了当前软物质力学研究领域的一些前沿课题。
《软物质力学进展(英文版)》的主编是美国加州大学伯克利分校的李少凡教授和南非科学院院士、开普半岛科技大学的孙博华教授。

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章节摘录

collagenous connective tissues， battery substrates and paper products amongmany others. For example, the cytoskeleton is a random network of filamen-tous proteins： filamentous actin （F-actin）， microtubules and intermediatefilaments. This network is rendered active by the presence of myosin motormolecules and has a complex role in the mechanics of the cell， the transportof biomolecules within the cytoplasm and in chemo-mechanical transductionand signaling[l-3l. The cytoskeleton is an out-of-equilibrium network whichconstantly remodels itself in response to external stimuli using a large num-ber of binding and cross-linking proteins interacting with the cytoskeletalfilaments. Fiber networks may also be exploited by several infectious bac-teria for self-propulsion[4， 51. The bacterial pathogen listeria monocytogenes， responsible for more than 2000 annual illnesses and deaths in US， form a fil-amentous comet tail by taking over the host cell actin machinery. The comettail is a complex network of cross-linked filaments which are constantly poly-merized and depolymerized to generate forces to propel the bacteria withinthe cytoplasm of the infected cells and into the other neighboring cells. Thelocal elasticity of these media determines to a large extent cellular growthrates. Connective tissues （CTs） such as cartilage and tendon belong to an-other category of biological fibrous networks. The mechanical functionality ofCTs derives directly from the structure and composition of their extracellularmatrix （ECM）. ECM is a network of insolub e fibrils （e.g.， collagen， elastin）and soluble proteoglycan polymers. It is responsible for carrying stresses andmaintaining tissue shape while infiuencing a large number of other biologi-cal properties and functions of the tissue. In any connective tissue， the con-stituents are meticulously arrangedinside the extracellular matrix to optimizethe function of that specific tissue. ……

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精彩短评

1、本书内容实用，讲解详细，非常好。
2、不错，很快到货

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