

Classification of thermodynamic systems

The first law of thermodynamics and live system

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This thesis explores the application of thermodynamic principles to biological systems. It focuses on the classification of thermodynamic systems and particularly on the first law of thermodynamics as a foundation for the energetic behavior of living organisms. The paper discusses the functioning of living organisms as open thermodynamic systems, mechanisms of energy transformation and conservation (e.g., ATP hydrolysis), and the role of enthalpy and Hess's laws in biochemical reactions. The study demonstrates, that biological systems strictly obey the laws of physics, and understanding these laws is essential for accurate analysis of biophysical and biochemical processes.