

Structural biology: past achievements and future perspective

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From the first experiments on fiber diffraction and the first structures of proteins and enzymes, structural biology has been extremely successful, and has probably provided one of the most important contributions of physics to biology. Synchrotron radiation has played a major role in the development of structural biology, allowing to study very complex and larger macromolecules (up to 60 MDa viruses). The development of SAXS to obtain low resolution molecular envelope can complement crystallographic studies to visualise the shape of the molecule in solution and to gather information on intrinsically disordered regions.

More recently, the technical developments in Cryo-Electron microscopy have revolutionised the field, opening up a new range of opportunities.

We will briefly review the history of structural biology and discuss the future perspectives, in light of the recent developments in artificial intelligence-based prediction algorithms.