

## MS44-02 | PROSPECTS OF SINGLE MOLECULE ELECTRON DIFFRACTION FOR STRUCTURAL BIOLOGY

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Diffraction data have a higher contrast, are less susceptible to sample movement and are electron-optically more robust. Diffraction patterns are insensitive to the sample movement and therefore allow obtaining highest possible resolution. We will discuss the possibilities of electron diffraction data of single protein complexes. The contrast of diffraction patterns can be enhanced by averaging data of similarly oriented molecules, which for well-defined molecular complexes could yield three-dimensional distribution of the scattering potentials with enough resolution for atomic interpretation. In diffraction mode, the phase of the scattered wave is not acquired by the detector and need to be retrieved for the sample structure retrieval. There are several strategies that would allow phasing data collected in diffraction mode and we discuss progress in this area.