



Contribution ID: 23

Type: not specified

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Tuesday 17 June 2025 16:58 (1 minute)

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This paper examines the problem of identifying structural features of molecular formations or structures based on diffraction patterns produced by their illumination with a monochromatic spherical wave. It is assumed that the structural elements of these formations, under the influence of an external field, generate spherical waves, and the observed diffracted field represents a superposition of these waves. The analysis is conducted within the framework of the kinematic approach, emphasizing both direct and inverse diffraction problems. Conditions for the formation of diffraction patterns with primary maxima are derived, where the system is illuminated so that all structural elements oscillate in phase under the influence of the external field. It is demonstrated that, under these conditions, reciprocity exists between the illumination and observation directions in the diffraction problem. The influence of the diffracted field on the source of the external field is also studied.

Based on this analysis, the well-known Laue conditions for the scattering vector are discussed as two distinct conditions imposed on the directions of illumination and observation of maxima.

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Session Classification: Poster Session P17