axis is calculated by LST.

2. Search for a "reference" reflection indices. For the reflection given by an experimenter the computer will choose those indices for which $|\Delta H_i|$ has the least value. Considering this reflection to be situated on the Ewald sphere, we find the coordinates of the centre point of the sphere and respectively, the coordinates of spheres separated by $\sqrt{\sum_i (H_i - H_{\text{EXP}})^2}$ with the criteria $|\Delta H_i| = \text{min}$ and the signs of indices do not contravene those of $X$ and $Y$ in the X-ray photograph with due regard for the position of the Ewald spheres in the reciprocal space.

3. Indexing is carried out by comparing $H_i$, $\text{EXP}$ and $H_i$, $\text{CALC}$ with the lattice parameters. The lattice parameters are refined by least squares and the discrepancy factor.

4. Computations of the coordinates $X_i$ and $Y_i$ of the computer-simulated X-ray photograph and the discrepancy factor.

5. Results of computations can be plotted or displayed and compared with experimental ones. The packing of coordination polyhedra is often used to visualize inorganic crystal structures.

Nearly all crystallographic program systems for use on minicomputers include programs for structure analysis by the direct method, but lack a program to analyse the Patterson function. To eliminate this deficiency, we have written a program for automatic interpretation of the interatomic vectors, compatible with the program systems XTL (NOV1-1200) and RESTM (SM-4 and X-6000). The program algorithm is applicable to the triclinic, monoclinic and orthorhombic systems. Essential information about the space group symmetry, unit cell parameters, and the coordinates of the peaks in the Patterson function are read automatically from the appropriate files created by the other programs in the system. Based on this information, the present program produces the atomic coordinates and interatomic distances of a molecular fragment, which in some cases may comprise more than 50% of the structure. It is possible to proceed automatically from this stage to calculation of an electron density map. Such a program may be included in any program system for structure analysis on minicomputers. Some examples of different complexity will be demonstrated.