The two input maps must be calculated exactly in the same set of the grid nodes. The maps are compared either for the whole this set or for its subset defined by the “1” value in the corresponding mask that can be loaded if requested.

First the maps are rescaled into the quantile ranks q, the values equal to the part of the grid nodes with the map value below than the value in the given point.

Then for each $0 < q < 1$ value (taken with some step) and for each map the program defines a set of points with the value below q. The number of the points in such sets is the same for every q, but not necessarily their positions. The discrepancy function D(q) is defined as the number of the points different in these two sets, properly normalized. D(q) close to 0 means that the regions are very similar. D(q) close to 1 means that the two regions are irrelevant to each other.

The peak correlation coefficients show how similar are the rank-scaled map values inside the regions selected for some specific q values. In particular, the q values equal to 0.90, 0.95, 0.99 for the “usual crystallographic maps” correspond to the sigma cut-off values close to 1, 2, 3 sigma (this may be not the case for particular maps, e.g. for the maps at very high or at very low resolutions).

For details see :

Urzhumtsev et al. (2014) Acta Cryst., D70, 2593

Urzhumtseva & Urzhumtsev , J.Appl.Cryst., submitted.