The total autocorrelation coefficient is found by summing the autocorrelation coefficient for each function in a multi-output function. Determination of each coefficient is performed as follows:

- For the 0 coefficient, the contribution of each cube to the value of the coefficient is 2^{d_i} where where d_i is the the number of don't care values in the i^{th} cube.
- For the remaining first-order coefficients, the contribution of each cube to the j^{th} coefficient is 2^{d_i} if the j^{th} variable is a don't care value in the i^{th} cube. If the j^{th} variable has a 1 or a 0, then the cube must be compared with all the other cubes. For each other cube found where the original cube is the "same" as the other cube with only the variable at position j changed, then the contribution of the original cube is

  $$contribution = contribution + 2 * 2^{d_{ab}}$$

  where d_{ab} is the number of don't cares that are in the same position in both the original cube (cube a) and the cube it is being compared to (cube b).

The algorithm described in [1] was used in finding a disjoint list of cubes.

References

[1] B. Falkowski, I. Schaefer, and M. A. Perkowski. A Fast Computer Algorithm for the Generation of Disjoint Cubes for Completely and Incompletely Specified Boolean Functions. In *Proceedings of the 33rd IEEE Midwest Symposium on Circuits and Systems*, 1990.