Welcome to use this ML-DE algorithm code!

As you see, you need to compile *'cubic_code.F'* code and run the program to obtain the 0^+ level DE information from scalar field and then compile *'diff_scale_part.f90'* code to obtain the ML-DE information from scalar field. Both codes are compiled with the head file *'param.h'* to declare some universal constants.

Most details of algorithm and definition of variables have been clarified in codes.

Importantly, the code is only applicable for cubic/square domain at present. You can choose the 2D/3D codes and set the dimensions and sizes of domain in *'param.h'* based on the data you use. The data input part for both 0^+ level and multi-level algorithm is easy to understand. You can adjust the way to read your data (for binary or other format file).

Some output file from *'cubic_code.F'* like *'points1.dat'* is the input data of *'diff_scale_part.f90'*. Just set the correct path for correct reading. Here for 2D program, the input data file *'ocean_summer1.dat'* and some output data files of *'cubic_code.F'* including *'ave_in_DE1.dat'*, *'note1.dat'*, *'numends1.dat'*, *'numpairs1.dat'*, *'pairing1.dat'*, *'points1.dat'* have been attached for test case.

And the postprocess part in *'diff_scale_part.f90'* is flexible. You can change some details (e.g. the bins number for joint PDF output) for better statistics output.

For any other problems, feel free to contact stturtle@foxmail.com.