newQFE/examples/ising_flat_crit.cc

as of Jul 15, 2023

```
158     int count = field.wolff_cluster.size();
159     for (int i1 = 0; i1 < count; i1++) {
160       for (int i2 = i1; i2 < count; i2++) {
161
162         int s1 = field.wolff_cluster[i1];
163         int x1 = s1 % N;
164         int y1 = s1 / N;
165         int z1 = (x1 + y1) % N;
166         int w1 = (x1 - y1 + N) % N;
167         int xz1 = (x1 - 2 * y1 + 2 * N) % N;
168         int yz1 = (y1 - 2 * x1 + 2 * N) % N;
169
170         int s2 = field.wolff_cluster[i2];
171         int x2 = s2 % N;
172         int y2 = s2 / N;
173         int z2 = (x2 + y2) % N;
174         int w2 = (x2 - y2 + N) % N;
175         int xz2 = (x2 - 2 * y2 + 2 * N) % N;
176         int yz2 = (y2 - 2 * x2 + 2 * N) % N;
177
178         int dx = (N - abs(2 * abs(x1 - x2) - N)) / 2;
179         int dy = (N - abs(2 * abs(y1 - y2) - N)) / 2;
180         int dw = (N - abs(2 * abs(w1 - w2) - N)) / 2;
181
182         if (y1 == y2) corr_x_sum[dx]++;
183         if (x1 == x2) corr_y_sum[dy]++;
184         if (w1 == w2) corr_z_sum[dx]++;
185         if (z1 == z2) corr_w_sum[dx]++;
186         if (xz1 == xz2) corr_xz_sum[dy]++;
187         if (yz1 == yz2) corr_yz_sum[dx]++;
188         corr_zero_x_sum[dy]++;
189         corr_zero_y_sum[dx]++;
190         corr_zero_z_sum[dw]++;
191       }
192     }
```

For the diagonal directions,
the denominator for the averaging
needs to be changed.

A simple way is to just set the counter.