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The static three-quark potential of various quark configurations

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We study the static three-quark potential in SU(3) lattice gauge theory at zero temperature with the Polyakov loop correlation function consisting of three Polyakov loops. By employing the multi-level algorithm we overcome the smallness of the signal to noise ratio and obtain remarkably clean signals. We extend our previous investigation of the three-quark potential and compute the potential for some eccentric cases such that the three quarks are located at the vertices of obtuse triangles, and are located in line. We compare these results with the cases that the three quarks are located at the vertices of the equilateral, the isosceles, and the right triangles.

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