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**Jae-Hyounk Lee\*** (jaehyounk1@gmail.com), KIAS Hoegiro 87, 207-43 Cheongnyangni-dong, Dongdaemun-gu, Seoul, 130-722, South Korea.  *$E_8$  lattice and del Pezzo surface.*

The holomorphic curves in del Pezzo surfaces play important roles in the Mysterious Duality between M-theory on tori and del Pezzo surfaces. In fact, the curves are the subset of  $E$  lattices in the Picard group of the del Pezzo surfaces, and the configuration of the curves are given by the  $E$  action on the  $E$  lattices. Here we consider the polytopes with  $E$  type symmetry in  $E$  lattice and explore the configuration of curves along the combinatorics of the polytopes. In particular, we focus on the configuration of curves in del Pezzo surfaces of degree 1 along the  $E_8$  lattices. (Received September 14, 2010)