A Variation on the Game of Life

生命遊戲的一種變型

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The GAME OF LIFE is a cellular automaton devised by the British mathematician John Conway in 1970. It is the best-known example of a cellular automaton. The universe of the Game of Life is an infinite two-dimensional grid of cells, each of which is either in one of two possible states: alive or dead. Every cell interacts with its eight neighbors. Some variations of Life modify the geometry of universe. 2-D triangular and 2-D hexagonal variations, and 3-D square variations have been developed.　In this study, a regular polyhedron variation is investigated.

生命遊戲是英國數學家約翰康威在 1970 年設計的一種細胞自動機。它是細胞自動機最著名的一個例子。生命遊戲的遊戲範圍是在一個無窮延伸的二維的網狀方格上，每一個小方格會有兩個可能的狀態：存活或死亡。每一個小方格會和它周圍相鄰的 8 個小方格產生互動關係。一些生命遊戲的變型修改了遊戲範圍。二維的三角形、二維的六邊形變型和三維的立方體變型都有被發展出來。在這篇研究中，我們探討生命遊戲在正多面體的變型。

Keywords: cellular automaton, regular polyhedron

關鍵字:細胞自動機，正多面體