

Diamond Growth Produced by Separated Carbon and Shock-Wave Related Processes

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Carbon grains in the solid rock are difficult to be formed by stable solid-solid reaction, because carbon sources are unknown in solid rocks except carbon-bearing compounds [1, 2]. The purpose of present paper propose planetary case of separated carbon grains to produce nano-, micro- to macro-diamond carbon.

There are five cases of carbon separation and formations of nano-, micro- and macro-diamonds as follows [1, 2]: 1) There are three cases formed by meteorite (chondrite) and impacted solid surfaces of asteroids, the Moon and Mercury, Mars and Venus and Earth planet. 2) One case is formed by meteorite and planetary air, and other case is with Earth's ocean water. 3) Recent data of deep interior sources of macro-diamond of water-planet Earth are included in carbon (diamond), because there are no evidences from deep interior of light carbon sources. However, it can be formed on the primordial surface of basic rocks if high-pressure condition might be generated mainly by meteoritic collisions etc. [1, 2].

Complicated formation of diamond carbon can be found at soften surface with air molecules and water fluids with soil-rich sea-floor of planet Earth which shows major two-types of macro-diamonds on planet Earth of the Kimberlite-type and the Popigai-type diamonds [3-7].

The present model suggests that macro-diamond carbon requires complicated situations. Therefore interior explosions of the Kimberlite-type diamond can be found only water planet Earth, whereas the Popigai-type micro-diamond with air and surface explosions by impact processes might be found at other air-planets of Mars and Venus. However, all nano-diamond carbon can be found at any celestial surfaces when there are any celestial collisions in the cosmic space [1, 2].

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