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Jet Stream is Chaos
Antithesis against Darwin's Theory of Evolution
A remarkable Idea to treat radioactive Wastes
safely for Fauna and Flora

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Jet Stream is Chaos

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It is realized that Jet stream, ocean current, typhoon, fountain, and even rivulet are chaos(Ueda 1961, Lorenz 1963). Some evidences and arguments supporting this remarkable idea have been made briefly in this article.

In Chaos attracter (Ueda 1961, Lorenz 1963), each the solution draws its own independent locus, but all of the loci remain within a tube, where the outer boundaries are well defined, as shown in Figure 1.

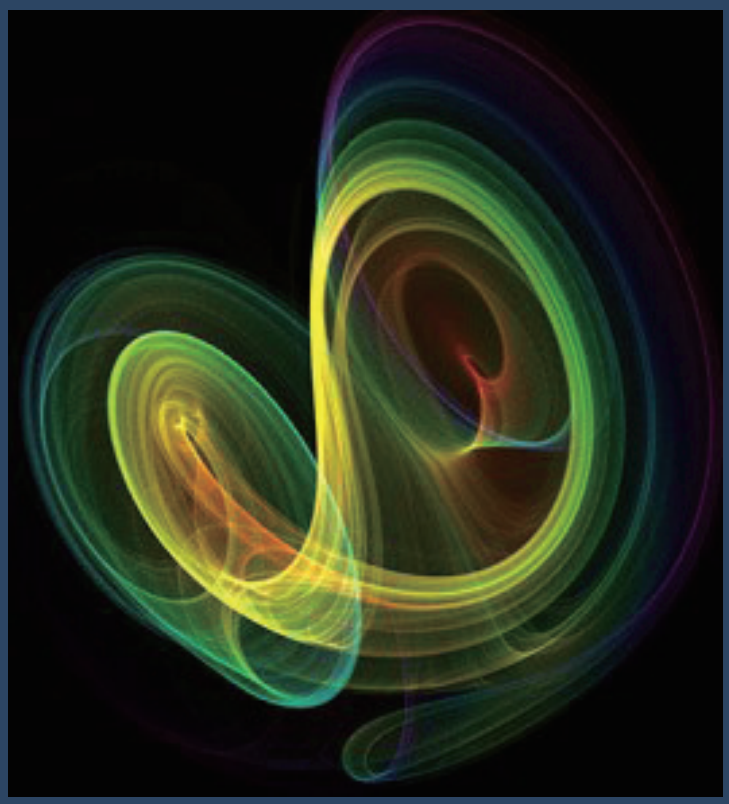

Figure 1 Lorenz attractor
After Lorenz (1963)

It is proposed that this nature of attracter is common with any flow having coherent structure in nature and engineering, such as Jet Stream, the Kuroshio, the Gulf Stream,

any river, typhoon or hurricane or cyclone, tornado, vortex, vortex ring, fountain, rivulet, and so on. During the flow visualization experiment in the flow of water rivulets, the present author has observed that the water particles in it behave as Chaos (Nakagawa & Scott 1983). Moreover, it is clear that each the fluid particle in the water fountain looks to take its free locus, but all of the particles are remained within the outer boundary, as shown in Figure 2. Hence, it is concluded that fountain is typical chaos. The fountain is located in Kenrokuen-garden, Kanazawa, Japan. Its water is fed from the upstream pond, called Kasumigaike, so that water jet is maintained by the water head difference between the upstream pond and downstream pond, where it locates. This fountain is of 3.5 m high approximately.

Figure 1 Water fountain as Chaos .
This oldest fountain in Japan is constructed in 1861.

Chaos attracter has been found by Ueda (1961, 1985) using the Duffing-type equation,

$$d^2 v/dt^2 - \mu(1 - \gamma v^2)dv/dt + v^3 = B\cos\nu t,$$

where μ is small positive parameter, γ positive constant, B amplitude, andν frequency.

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