Mandelbrot.MCD Sept. 01, 2003

Ref: http://www.electrogravity.com Jerry E. Bayles Updated July 01-2005

In the case of matter being continuously refreshed over time, fractals generated by iterating nonlinear mathematical expressions in the real and complex domain such as the Mandelbrot set, become applicable to the real world when nonlinear forces such as for gravity are examined. Stable as well as unstable areas are of interest if we are imitating gravitational fields. This would concern the operators of a craft utilizing electrogravitational fields for propulsion and lift in the Earth's gravitational field since areas of instability would exist in the gravitational field.

For fields in general, the Mandelbrot fractal in 3D shows that there are complex numbers that when iterated cause a buildup in magnitude towards infinity. If we look at the plot below for a 3D Mandelbrot plot we see that certain small areas yield very pronounced peaks which show that the magnitude at that small area grows very rapidly as the output of the Mandelbrot equation is circulated back to the input.

I remember back to an experiment done in one of the Electronics classes I attended where a ladder type transmission line was fed by an r. f. power transmitter at about 10 meters wavelength. We examined the standing waves along the unterminated line with a small flashlight bulb hooked to several turns of wire. This illustrated where the maximum and minimum current nodes were along the line. We also used a small neon bulb to determine where the maximum and minimum voltage nodes were. It was demonstrated by this experiment that the voltage and current nodes were 90 degrees apart. I remember that the instructor was careful to emphasize that the transmitter was operating on the leakage power through the final amplifier tube since the high voltage for the final was disconnected to prevent burning out the tube due to the amplitude of the reflected waves causing the output tube to either short out due to arcing or too much current being drawn from it due to the high potentials being reflected back from the standing waves on the transmission line.

In light of what I now know about the Mandelbrot set, I suspect that certain complex values of voltage or current amounting to a critical complex impedance may have went 'fractal' and the voltage and current at the input rose suddenly, thus burning out the tube if the power output tube was supplied with B+ on the plate.

The fractal rise of voltage at certain critical complex impedance's would also explain how tuning forks can be caused to deliver more energy into a receptor tuning fork when coupled in just the right distance and angle of the forks. This would represent a complex load at a critical coupling impedance that suddenly went fractal.

The critical complex impedance causing a sudden runaway of voltage and current might be the cause of large scale electrical grid blackouts, where the voltage would begin to swing violently thus causing plants to trip off line in a cascading sequence. This would not present itself as an easy problem to solve since various critical random load impedance's could possibly cause the fractal rise in voltage and current quite unexpectedly.

It is possible to apply the critical complex impedance concept to the Great Pyramid at Giza where we consider the possibility of the Great Pyramid extracting energy from its surroundings and converting the energy to a world grid of pyramidal receptors. By carefully tuning the resonance along the Grand Gallery, a critical impedance point at the entrance to the King's Chamber would began to provide a fractal rise in energy that theoretically would be unlimited. This would have to have very fine control to keep from destroying the transmission line characteristics of the Grand Gallery and the power converter coffer and resonance vaults above the King's chamber.

It has been established that fractals appear in nature as a result of a nonlinear change of energy or force over time and are not just a mathematical occurrence. This 'Sensitive dependence upon initial conditions' occurs by reason of a nonlinear feedback mechanism where we then add a complex constant during each feedback loop. Then the constant is incremented to allow for the next feedback loop. If the absolute value of the output of the process is larger than two, the complex constant is incremented and the loop is set into motion again. The equation is:

$$Z = Z^2 + C$$

where Z is initially set to a value of zero. C is in the form of:

$$C = X + Yj$$

where X is a real number and Y is an imaginary number.

The 3D graph below illustrates how peaks form at critical values of complex numbers. This could apply to any complex set of values.

$X := -2.00 \quad Y := -2.00 \qquad i := 1, 2 .. 400 \quad j := 1, 2 .. 400 \qquad step := .01$

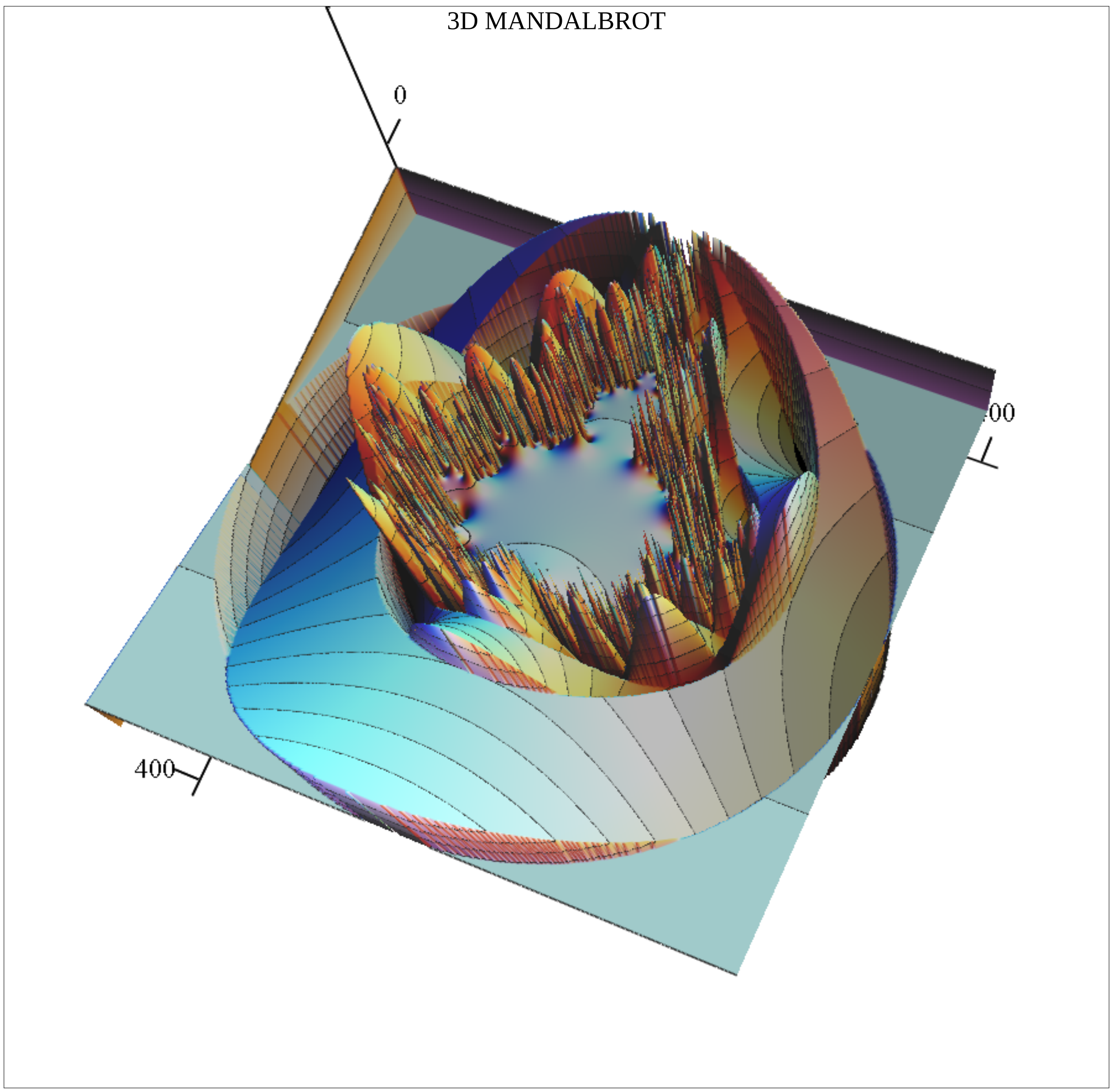
$$X_i := X + \sum_{n=1}^{i} step \qquad\qquad Y_j := Y + \sum_{m=1}^{j} step$$

$$C_{i,j} := X_i + j \cdot Y_j \qquad\qquad ittr := 15$$

$$z_{i,j} := \left| \begin{array}{l} z_{i,j} \leftarrow 0 \\ N \leftarrow 0 \\ \text{while } N < ittr \\ \quad \left| \begin{array}{l} N \leftarrow N + 1 \\ \text{continue} \quad \text{if } \left| z_{i,j} \right| > 2 \\ z_{i,j} \leftarrow \left(z_{i,j}\right)^2 + C_{i,j} \\ N \leftarrow 0 \quad \text{if } \left| z_{i,j} \right| > 2 \end{array} \right. \\ z_{i,j} \end{array} \right.$$

This program begins with X and Yj at -2.00 and steps X in increments of .01 until it reaches +2.00. Then Yj is incremented by .01 to -1.99. This process is continued until both X and Yj are equal to 2.00. During this process, z is checked to see if the absolute value exceeds 2.00. If so, the iteration falls through to the next loop. The above maximum iteration is 15 loops. This can be increased for more detail. The output z can represent energy, force or whatever is of interest.

$M_{i,j} := z_{i,j}$ SURFACE PLOT



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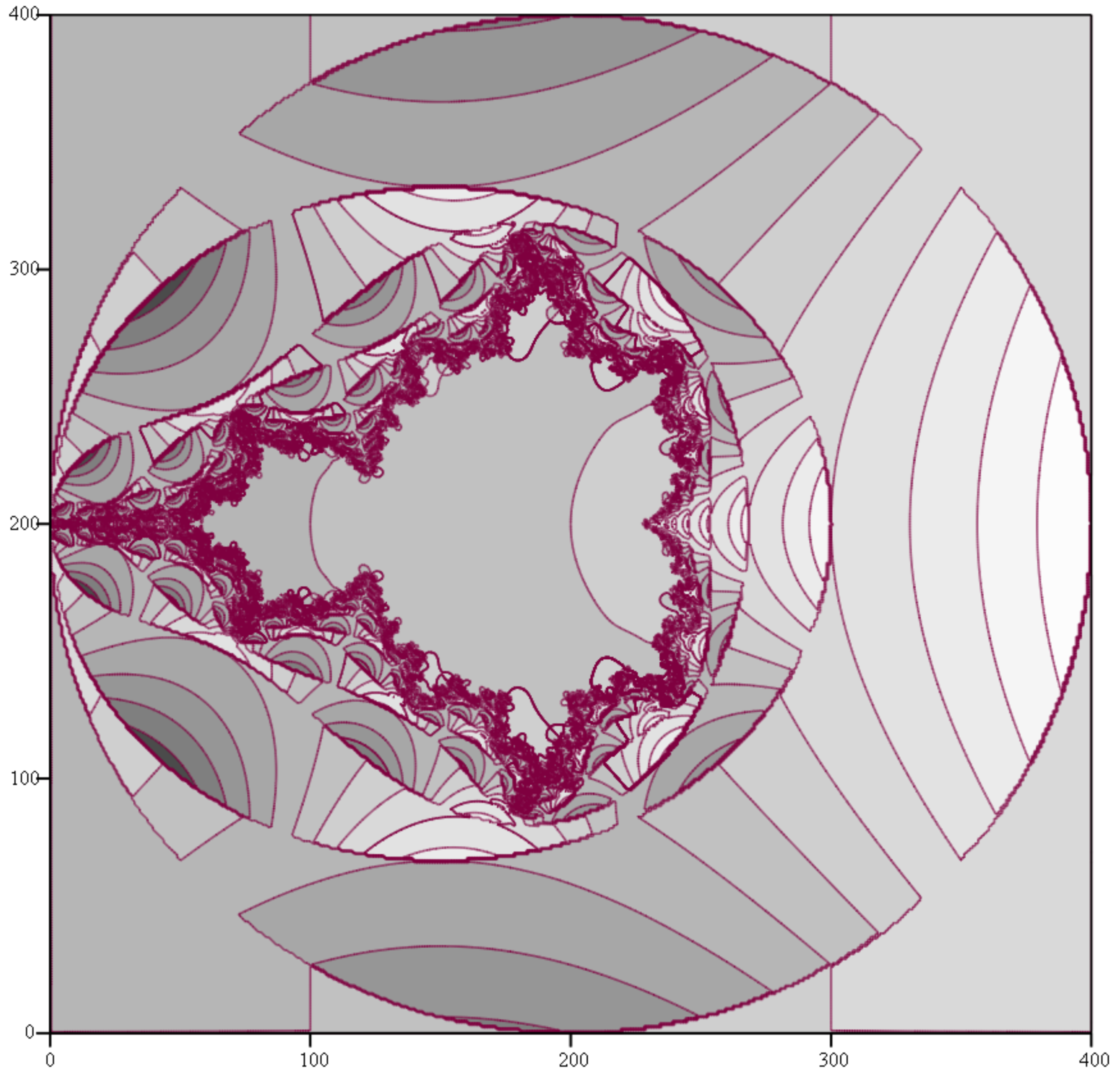
CONTOUR PLOT



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