## The Ionic Expanding Universe

by Eugene Ellis (August 2023)

The ionic expanding universe starts with our ionic growing earth. As the growing elemental atoms increase in mass at certain times on earth,

1) the volume of each elemental atom increases proportionally,
2) the radius of each elemental atom increases proportionally,
3) the density (mass per unit volume) of each elemental atom remains unchanged,
4) the acceleration (g) increases proportionally,
5) the orbits increase proportionally, and

6 ) the universe inflates proportionally.
The controlling factor (the cause) throughout the entire earth expansion process as extended to the universe, is the growing mass (growing elemental atoms). Heating neither inflates the size nor increases the mass of the universe. Heat's temperature merely drops to the temperature of the surroundings in space. Entropy occupies the empty space; it doesn't inflate the universe.
Time is very important because of the way it evolved on earth. We measure time with a day consisting of one complete $360^{\circ}$ spin and a year consisting of one orbit around the sun. In the past, the earth was spinning faster and there were less days per year. In addition, we measure distances based on earth time which is different at different places.
Using the 3 graphs from Quantifying the Heat from Earth's 8- Abundance Elements (https://www.academia.edu/104573952/Quantifying the Heat from Earths 8 Abundan ce Elements revised July 2023) one can show relative sizes and distances at past times for any specific point of (universal) time.

## EARTH FIGURE 4R - GRAPH of TABLE 5R





Converting the percentages shown above on the vertical axis to real numbers at the same past time for each place indicates the interrelationship of how these 3 places are moving with respect to one another. Adding Newton's inverse square law to the mix provides the distance between them. Repeating this process at multiple universal times enhances those relationships.

| Earth | 0.520 | $=$ | $3.11 \mathrm{E}+24$ |  |  |
| :--- | ---: | ---: | ---: | ---: | ---: |
| Mass (kg) | $5.98 \mathrm{E}+24$ | x | 0 |  |  |
| Radius $(\mathrm{km})$ | 6378.96 | x | 0.800 | $=$ | 5103.168 |
| Gravity $\left(\mathrm{m} / \mathrm{s}^{2}\right)$ | 9.8 | x | 0.800 | $=$ | 7.84 |
| Density $(\mathrm{g} / \mathrm{cc})$ | 5.5 | x | 1.000 | $=$ | 5.5 |


| Moon | 0.440 | $=$ | $3.23 \mathrm{E}+22$ |  |  |
| :--- | ---: | :--- | :--- | :--- | ---: |
| Mass (kg) | $7.35 \mathrm{E}+22$ | x | 0 |  |  |
| Radius $(\mathrm{km})$ | 1738.22 | x | 0.760 | $=$ | 1321.047 |
| Gravity $\left(\mathrm{m} / \mathrm{s}^{2}\right)$ | 1.62 | x | 0.760 | $=$ | 1.2312 |
| Density $(\mathrm{g} / \mathrm{cc})$ | 3.34 | x | 1.000 | $=$ | 3.34 |


| Sun | 0.560 | $=$ | $1.11 \mathrm{E}+30$ |  |  |
| :--- | ---: | :--- | :--- | :--- | ---: |
| Mass (kg) | $1.99 \mathrm{E}+30$ | x | 0 |  |  |
| Radius $(\mathrm{km})$ | 695732.1 | $\times$ | 0.650 | $=$ | 452225.8 |
| Gravity $\left(\mathrm{m} / \mathrm{s}^{2}\right)$ | 274.08 | $\times$ | 0.650 | $=$ | 178.152 |
| Density $(\mathrm{g} / \mathrm{cc})$ | 1.41 | x | 1.000 | $=$ | 1.41 |


| Earth | @100Ma |  |  |  |  |
| :--- | ---: | ---: | ---: | ---: | ---: |
| Mass (kg) | $5.98 \mathrm{E}+24$ | x | 0.300 | $=$ | $1.79 \mathrm{E}+24$ |
| Radius $(\mathrm{km})$ | 6378.96 | x | 0.670 | $=$ | 4273.903 |
| Gravity $\left(\mathrm{m} / \mathrm{s}^{2}\right)$ | 9.8 | x | 0.670 | $=$ | 6.566 |
| Density $(\mathrm{g} / \mathrm{cc})$ | 5.5 | x | 1.000 | $=$ | 5.5 |


| Moon | @100Ma |  |  |  |  |
| :--- | ---: | ---: | ---: | ---: | ---: |
| Mass (kg) | $7.35 \mathrm{E}+22$ | x | 0.200 | $=$ | $1.47 \mathrm{E}+22$ |
| Radius (km) | 1738.22 | x | 0.580 | $=$ | 1008.168 |
| Gravity $\left(\mathrm{m} / \mathrm{s}^{2}\right)$ | 1.62 | $\times$ | 0.580 | $=$ | 0.9396 |
| Density $(\mathrm{g} / \mathrm{cc})$ | 3.34 | x | 1.000 | $=$ | 3.34 |


| Sun | $1.99 \mathrm{E}+30$ | x | 0.120 | $=$ | $2.39 \mathrm{E}+29$ |
| :--- | ---: | ---: | ---: | ---: | ---: |
| Mass $(\mathrm{kg})$ |  |  |  |  |  |
| Radius $(\mathrm{km})$ | 695732.1 | x | 0.290 | $=$ | 201762.3 |
| Gravity $\left(\mathrm{m} / \mathrm{s}^{2}\right)$ | 274.08 | x | 0.290 | $=$ | 79.4832 |
| Density $(\mathrm{g} / \mathrm{cc})$ | 1.41 | x | 1.000 | $=$ | 1.41 |


| Earth | @150Ma |  |  |  |  |
| :--- | ---: | ---: | ---: | ---: | ---: |
| Mass (kg) | $5.98 \mathrm{E}+24$ | x | 0.175 | $=$ | $1.05 \mathrm{E}+24$ |
| Radius (km) | 6378.96 | x | 0.560 | $=$ | 3572.218 |
| Gravity $\left(\mathrm{m} / \mathrm{s}^{2}\right)$ | 9.8 | x | 0.560 | $=$ | 5.488 |
| Density $(\mathrm{g} / \mathrm{cc})$ | 5.5 | x | 1.000 | $=$ | 5.5 |


| Moon | $7.35 \mathrm{E}+22$ | x | 0.100 | $=$ | $7.35 \mathrm{E}+21$ |
| :--- | ---: | ---: | ---: | ---: | ---: |
| Mass $(\mathrm{kg})$ | 1738.22 | x | 0.460 | $=$ | 799.5812 |
| Radius $(\mathrm{km})$ | 1.62 | x | 0.460 | $=$ | 0.7452 |
| Gravity $\left(\mathrm{m} / \mathrm{s}^{2}\right)$ | 3.34 | x | 1.000 | $=$ | 3.34 |
| Density $(\mathrm{g} / \mathrm{cc})$ |  |  |  |  |  |


| Sun | $1.99 \mathrm{E}+30$ | x | 0.008 | $=$ | $1.49 \mathrm{E}+28$ |
| :--- | ---: | ---: | ---: | ---: | ---: |
| Mass (kg) | 274.08 | x | 0.195 | $=$ | 53.4456 |
| Radius (km) | 695732.1 | x | 0.195 | $=$ | 135667.8 |
| Gravity $\left(\mathrm{m} / \mathrm{s}^{2}\right)$ | 1.41 | x | 1.000 | $=$ | 1.41 |
| Density $(\mathrm{g} / \mathrm{cc})$ |  |  |  |  |  |


| Earth | @200Ma |  |  |  |  |
| :--- | ---: | ---: | ---: | ---: | ---: |
| Mass $(\mathrm{kg})$ | $5.98 \mathrm{E}+24$ | x | 0.090 | $=$ | $5.38 \mathrm{E}+23$ |
| Radius $(\mathrm{km})$ | 6378.96 | x | 0.450 | $=$ | 2870.532 |
| Gravity $\left(\mathrm{m} / \mathrm{s}^{2}\right)$ | 9.8 | x | 0.450 | $=$ | 4.41 |
| Density $(\mathrm{g} / \mathrm{cc})$ | 5.5 | x | 1.000 | $=$ | 5.5 |


| Moon | $7.35 \mathrm{E}+22$ | x | 0.055 | $=$ |
| :--- | ---: | ---: | ---: | ---: |
| Mass $(\mathrm{kg})$ | $4.04 \mathrm{E}+21$ |  |  |  |
| Radius $(\mathrm{km})$ | 1738.22 | x | 0.365 | $=$ |
| Gravity $\left(\mathrm{m} / \mathrm{s}^{2}\right)$ | 1.62 | x | 0.365 | $=$ |
| Density $(\mathrm{g} / \mathrm{cc})$ | 3.34 | x | 1.000 | $=$ |


| Sun | $1.99 \mathrm{E}+30$ | x | 0.007 | $=$ | $1.39 \mathrm{E}+28$ |
| :--- | ---: | ---: | ---: | ---: | ---: |
| Mass $(\mathrm{kg})$ | 274.08 | x | 0.191 | $=$ | 52.34928 |
| Radius $(\mathrm{km})$ | 695732.1 | x | 0.191 | $=$ | 132884.8 |
| Gravity $\left(\mathrm{m} / \mathrm{s}^{2}\right)$ | 1.41 | x | 1.000 | $=$ | 1.41 |
| Density $(\mathrm{g} / \mathrm{cc})$ |  |  |  |  |  |


| Earth | @250Ma |  |  |  |  |
| :--- | ---: | ---: | ---: | ---: | ---: |
| Mass (kg) | $5.98 \mathrm{E}+24$ | x | 0.064 | $=$ | $3.83 \mathrm{E}+23$ |
| Radius (km) | 6378.96 | x | 0.400 | $=$ | 2551.584 |
| Gravity $\left(\mathrm{m} / \mathrm{s}^{2}\right)$ | 9.8 | x | 0.400 | $=$ | 3.92 |
| Density $(\mathrm{g} / \mathrm{cc})$ | 5.5 | x | 1.000 | $=$ | 5.5 |


| Moon | $7.35 \mathrm{E}+22$ | x | 0.020 | $=$ | $1.47 \mathrm{E}+21$ |
| :--- | ---: | ---: | ---: | :--- | ---: |
| Mass $(\mathrm{kg})$ | 1.62 | x | 0.280 | $=$ | 0.4536 |
| Radius $(\mathrm{km})$ | 1738.22 | x | 0.280 | $=$ | 486.7016 |
| Gravity $\left(\mathrm{m} / \mathrm{s}^{2}\right)$ | 3.34 | x | 1.000 | $=$ | 3.34 |
| Density $(\mathrm{g} / \mathrm{cc})$ |  |  |  |  |  |


| Sun | $1.99 \mathrm{E}+30$ | x | 0.001 | $=$ | $1.99 \mathrm{E}+27$ |
| :--- | ---: | ---: | ---: | ---: | ---: |
| Mass $(\mathrm{kg})$ | 274.08 | x | 0.155 | $=$ | 42.4824 |
| Radius $(\mathrm{km})$ | 695732.1 | x | 0.155 | $=$ | 107838.5 |
| Gravity $\left(\mathrm{m} / \mathrm{s}^{2}\right)$ | 1.41 | x | 1.000 | $=$ | 1.41 |
| Density $(\mathrm{g} / \mathrm{cc})$ |  |  |  |  |  |

It is obvious that as the mass lines (@ 2 or $3 \%$ ) approach the horizontal axis, the picking of a percentage becomes very difficult. In this regard, the tables used to construct the graphs can be computer programmed to provide the actual numbers.

A REFLECTION. This new analysis is concise and complete. Most people are reluctant to accept anything new because newness is not trustworthy until properly aged or vetted.

A REQUEST. I would appreciate knowing if anyone has similar abundance data for any other place. My contact address is here: https://ionic-expanding-earth.weebly.com/contact-me.html

