Great collapse (Kepler's first law)

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ABSTRACT

When I put Kepler's first law under peer review, I note: 1) There is an isolation cordon between daytime and night = 13.88 m; 2) Earth's Rotation Axis loses its tendency to its mother (Polaris now) in winter; 3) Celestial's equator doesn't parallel Earth's equator; 4) Ice sheet in Antarctica equals ice sheet on arctic. But we find the field observation data contrary to that.

Keywords: Astronomy; Solar; Collapse; System; Coronal Model; Elliptical Orbit

1. INTRODUCTION

I think, it is not easy to call astrophysicists or astronomers to review Kepler's first law. But, when we take a look to the chart of celestial sphere, we strongly note that we could not put Earth's equator in parallel with celestial's equator, especially when we remember that the rotation axis of Earth is pointing (now) to Polaris; which is inclining about half degree to the North Celestial Pole (NCP) (See **Figure 1**).

Indeed, monkey does not set down there. But, when we try to take a deep looking in minutiae, we find our self in the circle of wondering, especially when we try to reread the data of **Figure 2**.

- How could the Earth's equator parallel the celestial's equator when ($\theta z = \theta z'$)?
- How could Earth's rotation axis tend to Polaris in winter when ($\theta h = \theta h' < \theta H$)?
- Why we find some differences between daytime and night in times of Equinoxes when we use Kepler's first law?

But the hard question which stays with no good answer is (the penetration of Pluto in Neptune's orbit). How we can understand the events of 1989 - 1999, with the horizontal model of orbits (Kepler's theory)? Is there any relationship between this event and parallax, or ability of reflecting the light?

From these points, we can realize that we have to re-view the whole data of field observation concerning the celestial's sphere, which will be discussed in the following pages, where we can obtain the core of the REAL ASTRONOMY.

2. DEFINITIONS

Wherever these words or phrases are mentioned they have the following meanings:

- Earth's Orbit (EO): It is a closed and elliptical phantom line drawn by Earth when it is turning around the Sun.
- Major axis (MX): It is an image straight-line, its selvages touch of furthest points on elliptical orbit, and passes through its center.
- Ecliptic: It is closed phantom line drawn by the Sun during its apparent movement around the Earth (the Earth's orbit around the Sun). The extension of Ecliptic divides the wide strip of Zodiac into two equal halves (Its obliquity to celestial's equator at
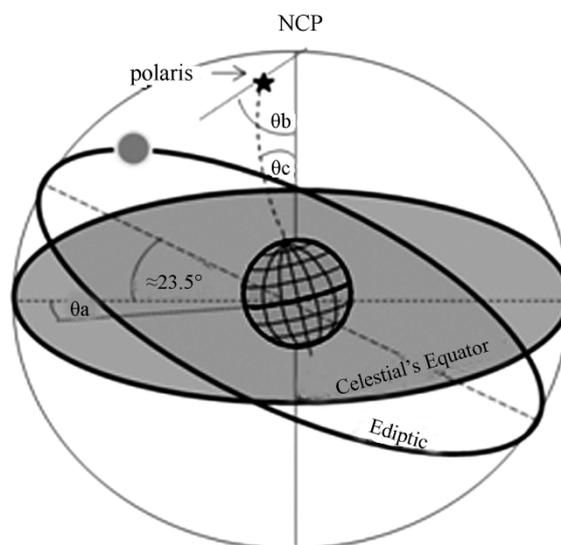

Figure 1. (ERA) is tending to polaris, which inclines to (NCP), about 0.5°, so we have an angle (θa) between earth's equator and celestial's equator.
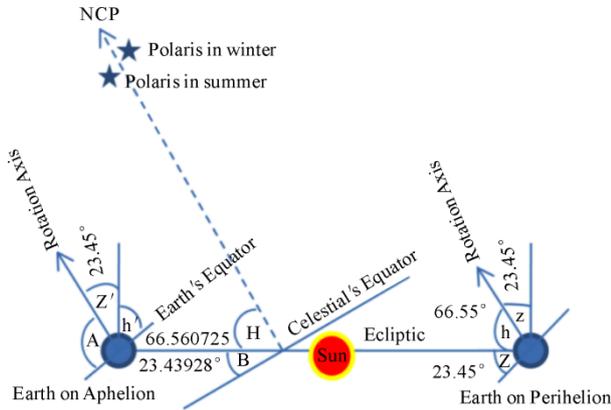
Figure 2. Two rotation axis are parallel; (with respect to; A = 90° = h + z) (h = h′), (Z = z = z′), (H + B = 90°).

J2000.0 = 23° 26′ 21.4119′′), which is moving in Zodiac 46.8″/1000 year [1].

- North Celestial Pole (NCP): It is a notional point located in the zenith of the center of the North Celestial Dome (NCD).
- Earth's Rotation Axis (ERA): It is a notional straight line passes (theoretically) through the center of the Earth's mass, and its two selvages touch of the center of the north and south poles of the earth's mass, and it stands vertically with the level of the Earth's equator.
- Earth's Poles Center (EPC): There are two opposite points on the surface of the Earth; the ERA is connecting between them in perpendicular with Earth's equator.
- Earth's Equator (EQ): It is a notional line surrounds the surface of Earth from its mid. EQ is the zero latitude on Earth (Its inclination to Ecliptic = 23.45°).
- Zenith: It is a notional point in the Celestial Dome (CD) which is directly located above the observer who stands on Earth.
- Perihelion: It is a notional point on the EO, and a closest point on EO to the Sun.
- Celestial Equator (CQ): It is a phantom line which surrounds the great celestial sphere from its mid, (CQ) is the zero latitude of the sphere.
- Aphelion: It is a notional point on the (EO), and a furthest point on EO to the Sun.
- Polaris: It is a star which shines in the top of the NCD, and it inclines 0.44349° to the NCP.

3. SUPPOSITIONS OF THE RESEARCH

I assume the following points in this research:

- The inclination of (ERA) to falling column on ecliptic plane = 23° and 27′and 38.5881″ at Perihelion, but at Aphelion = 23° and 25′and 42.8238″.
- The distance between Sun and Earth (surface to surface), when Earth is located at Perihelion = 147.104 × 10^6 km.
- The distance between Sun and Earth (surface to surface), when Earth is located at Aphelion = 152.103 × 10^6 km.
- (MX) does not pass through the center of the Sun's mass.
- The inclination of tropic of Cancer to Ecliptic plane = 38.588″ (0.0107188 arc degree) to the south
- The inclination of tropic of Capricorn to Ecliptic plane = 1′ and 17.1761″ (0.0214376 arc degree) to the south. See **Figure 4**.

4. OBJECTIVES AND QUESTIONS OF THE RESEARCH

This research aims to explain the real astronomy, and then presents a new law in astronomy, which deals accurately with field observation data of (CD).

Also, this research poses the following questions:

- Does the center of the Sun locate in one of the two focuses of the Ecliptic?
- Does celestial's equator parallel Earth's equator?
- Why did we observe the penetration of Pluto in Neptune's orbit in 1989?
- Where is the location of Sun's center in Ecliptic?

5. DATA OF THE RESEARCH

I basically depend on the following facts:

- North selvage of (ERA) is pointing to Polaris, now.
- (ERA) is standing vertically on (EQ).
- Scientists are disagreed about the quantum of the inclination of the (ERA) to the falling column on Ecliptic plane [2].
- ea = a – (R′ + R + r), where (ea) is the distance between focus and orbit's center, (a) the radius of orbit, (R) the radius of Sun, (R′) the planet's radius, (r) the minimum distance between the Sun and the planet.
- $(a = \frac{1}{2}(2R' + 2R + r + r')$ *where*; *Astronomical Unit* (AU) = $\frac{1}{2}(300610772.272)$ km, (r′) the maximum distance between planet and Sun.
- Eccentricity $(e) = \dfrac{ea}{a} = \dfrac{r'-r}{r'+r}$.
- Equatorial diameter of Earth [3] = 12756.272 km.

- Sun's diameter = 1391016 kilometers ± 361.66 kilometers [4]
- Ice sheet on Arctic is more than the ice sheet in Antarctica [5].
- Obliquity of ecliptic to [4] (CQ) = 23° 26′ 21.4119″.
- Inclination [4] of (EQ) to orbit = 23° 27′.

6. PROBLEM OF RESEARCH

The problem of this research is summarized in:

1) (ERA) could not point to Polaris in winter.

2) Earth's equator does not parallel the celestial's equator.

3) Ice sheet on Arctic doesn't equal ice sheet in Antarctica.

4) Pluto could not penetrate in Neptune's orbit.

To explain this problem, I will try to imitate the first Law of Kepler, and put the data of this law on **Figure 3** as follows:

1) Side (a b) represents the major axis of Ecliptic.

2) Arrow (h) represents (ERA) when Earth stands at Perihelion. This arrow inclines 23.45º (23º and 27′) [4] to the Falling Column on Ecliptic (FCE).

3) Arrow (h´) represents (ERA) when Earth stands at Aphelion. This arrow inclines 23.45º (23º and 27′) to the (FCE).

4) Dashed arrow (n) is going from the center of (CD) toward the (NCP) and falls perpendicular on the celestial's equator.

5) Side (e a) represents the (FCE), also the side (e´ b).

6) Dashed line represents the celestial's equator. This line inclines 23.438281º (23º 26′ 21.4119″) [4] to ecliptic. See **Figure 3**.

Through these data which Kepler depended on it, in his first law; I can mark the following notes, and explain how and where the mistakes had been happened:

✓ $\theta_A = \theta_H = \theta_H' = \theta_A' = 23.45°$

✓ $\theta_k = 90°$

✓ $\theta_C = (90° - \theta_A) = 66°$ and 33′

✓ $\theta_D + \theta_C + \theta_B = 180°$. So; $\theta_D = 180° - (\theta_C + \theta_B) = 180° - 89° 59′ 21.4119″ = 90°$ and 38.588″   (1)

✓ $\theta_E = (180° - \theta_D) = 89° 59′ 21.4119″$ (2)

✓ $\theta_B = \theta_B'$ by reflection, so; $\theta_D' = 180° - (\theta_B' + \theta_C') = 90°$ and 38.588″   (3)

From this point we conclude that:

1) If arrow (h) could intersect with arrow (n), then this possibility is unavailable with arrow (h´). This defect lets us to review all estimations concerning the quantity of inclination of (ERA) to (FCE).

2) The results of two relationships (1) and (3) mean that the Earth's equator does not parallel the celestial's equator; please note: $\theta_E \neq (\theta_C + \theta_H)$ and $\theta_E \neq \theta_k$.

3) When we note that the $(\theta_D' > \theta_K > \theta_E)$, we realize that the (ERA) is losing its tendency to Polaris in winter.

4) These results indicate to (one or more) mistakes in the first law of Kepler.

7. DATA - PROCESSING

To process the problem of this research, we have to work with the real data, and let us imagine that we have two vertical and adjoined triangles at same level, and the rectangle (d, c, z, g) separates between them, as follows:

1) Side (a b) represents the ecliptic's plane (the major axis of ecliptic), and the column (e) stands perpendicular on it to the maximum right, and column (e´) to the maximum left.

2) Arrow (h) represents the (ERA) when Earth stands at Perihelion, which (in the same time) stands perpendicular on the (EQ).

3) Arrow (h´) represents the (ERA) when Earth stands at Aphelion, which (in the same time) stands perpendicular on the (EQ).

4) Side (a g) represents the sunlight which vertically falls on the tropic of cancer when Earth stands at Perihelion.

5) Side (b k) represents the sunlight which vertically falls on the tropic of Capricorn when Earth stands at Aphelion.

6) Side (g k) represents Sun's diameter.

7) Arrow (n) trends from the center of the (CD) towards the (NCP), and stands perpendicular on the (CQ).

8) Dashed line represents the (CQ) (See **Figure 4**).

Of course, this hypothesis will seem voiceless and blindness, but the trial of putting the smooth data of celestial's sphere on it, will make it enunciate by the whole truth; especially, when we try to handle the problem of research, as follows:

If the quantity of inclination of Earth's equator to ecliptic (in first law of Kepler) which equals 23.45º could not match the field observation data, we will take attention to the following issues:

1) The differences between two quantities (inclination of Earth's equator to orbit, and obliquity of the ecliptic), may be calculated as follows:

$$(23º 27′) - (23º 26′ 21.4119″) = 38.5881″   (4)$$

2) Because the motion of Earth is taking double race when it is moving from south of Ecliptic to north of Ecliptic; first step when it moves from south of Ecliptic to Ecliptic plane, but the second step when it moves from Ecliptic plane to the north of Ecliptic. Then we find the inclination of Earth's equator to ecliptic takes place to south of the Ecliptic plane when Earth stands at Perihelion, but it takes place to north of Ecliptic plane when Earth stands at Aphelion. This rule requires adding the quantity of this difference (38.588″) to (23º27′)
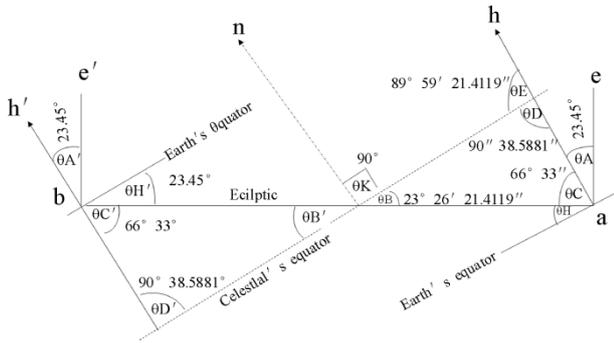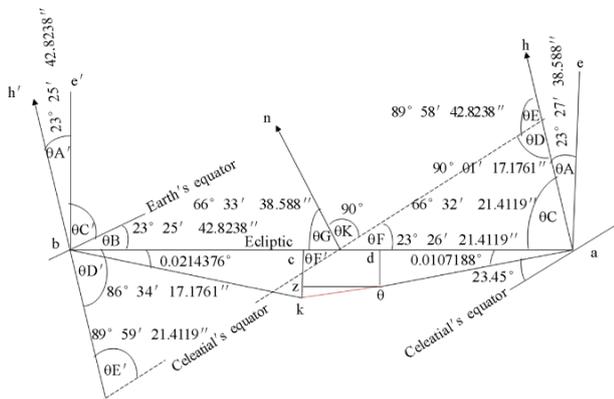
Figure 3. Data of kepler's first law.

Figure 4. My theory.

when Earth stands at Perihelion, and deducting its double when Earth stands at Aphelion, as follows:

$$\theta_A = 23º\ 27' + 38.588'' = 23º\ 27'\ 38.588'' \qquad (5)$$

$$\theta_A' = 23º\ 27' - (38.588'' \times 2) = 23º\ 25'\ 42.8238'' \qquad (6)$$

Then: $\theta_C = 90º - \theta_A = 66º\ 32'\ 21.4119''$
where, $\theta_C' = 90º - \theta_A' = 66º\ 34'\ 17.1761''$
then: $\theta_D = 180º - (\theta_C + \theta_F) = 90º\ 1'\ 17.1761''$

$$\text{So: } \theta_E = 180º - \theta_D = 89º\ 58'\ 42.8238'' \qquad (7)$$

3) These results concerning the angles on the Perihelion. But calculation of the angles on the Aphelion; need more complex than before:

$$(\theta_A' + \theta_C' + \theta_B) = 113º\ 25'\ 42.8238''$$

$\theta_D' = 180º - (\theta_A' + \theta_C' + \theta_B) = 66º\ 34'\ 17.1761''$.
So:

$$\theta_E' = 180º - (\theta_D' + \theta_F') = 89º\ 59'\ 21.4119'' \qquad (8)$$

4) (23.45°) just equals the inclination of Earth's equator to Ecliptic at equinox.

5) The results in (5) and (6), mean that the inclination of tropic of cancer = 38.588″ to south of Ecliptic plane when Earth stand at Perihelion, and the inclination of tropic of Capricorn = 1′17.1761″ to south of Ecliptic plane when Earth stand at Aphelion.

6) The results in (7) and (8), indicate that the two arrows (h, h′) will intersect the arrow (n), but they will

not intersect on the same point. The intersection point of arrow (h) with arrow (n) is closer to the center of (CD) than the intersection point of arrow (h′) with arrow (n), with attention that the location of Polaris is to the west of arrow (n) in summer solstice, where its location in winter solstice is to the east of arrow (n). To be certain of these results accuracy, we should do the following calculations:

a) If we consider that the side (a g) equals the length of sunlight which vertically falls on the tropic of cancer when Earth be on Perihelion + the radius of Earth (which equals 147110378.136 km), we can calculate the sides of the triangle (a g d) as follows:

In the triangle (a d g) we have a sharp angle (0.0107188°) in (a), so;

$$\text{Sine } 0.0107188° = \frac{gd}{ga}.$$

So; g d = Sine 0.0107188° ×147110378.136 km =

$$27521.1669 \text{ km}\dots\dots\dots\dots\dots\dots (9)$$

if cosine $0.0107188° = \dfrac{ad}{ga}$

so the length of side (a d) = 147110375.5616 km   (10)

if Cosine 0.0107188° = a c/a k, the length (a c) = 0.9999999825 × (1391016 + 147104000 + 6378.136) = 148501391.5373 km

so the length of side (c d) = (a c – a d) =

$$1391015.7517 \text{ km} \qquad (11)$$

b) If we consider that the length of side (b k) = the length of sunlight which vertically falls on the tropic of Capricorn when Earth be on aphelion + the radius of Earth (which equals 152109378.136 km), we can calculate the length of the sides of triangle (b c k) as follows :

$$\text{Sine } (0.0214376°) = \frac{ck}{bk}. \text{ So;}$$

c k = 56912.7422 km   (12)

$$\text{Cosine } (0.0214376°) = \frac{cb}{bk}. \text{ So;}$$

c b = 152109367.4888 km   (13)

Length of side (a b) = (a d + c d + c b) = 300610758. 8021 km

(14)

So; the length of side (c d) ≠ the diameter of Sun, and the length of (a b) could not include the maximum and minimum distance between Sun and Earth (center to center); which equals 300610772.272 km.

When we review the relationships (11), (14) we realize that we could not put the diameter of Sun on side (c d), but we can do that on side (g k)   (15)

From these points we can consider that the length of

the side (a b) is express the Major Axis of Earth's orbit, but it could not pass through the center of Sun   (16)

When we note, $\theta_E \neq \theta_K$, we realize that; (CQ) does not parallel (EQ)   (17)

After these results, we can say that:

1) The side (k g) exactly equals the Sun's diameter (1391016 km), which means; the side (k g) can (theoretically) pass through the center of Sun's mass, but the side (a b) could not do that; because the length of (a b) could not simulate the perceptible quantity of equation $(2a = 2R' + 2R + r + r')$ (. Also the length of side (c d) does not equal the Sun's diameter, which makes its passing through the center of Sun's mass, impossible.

2) The mid of (g k) represents the center of Sun's mass, which means that the center of Sun's mass is located far away from the focus (exactly 27534.18 km)   (18)

3) The relationship (18) means that the orbits of planets (around the Sun) are built one over other (coronal model), and this model is the correct processing for confused calculations.

8. HARD EVIDENCES

With relationships (5) and (6) we noted that the angular width = 46.9214°, which means that the range of oblate of the shadow on Earth's surface reaches a maximum of 30.383 km when beam falls vertically on equator (0°), and reaches a minimum of (0 m) when beam falls vertically on latitude of 23.46071°. This movement enwraps 183.5 days. The result of this movement causes a longest night and a shortest night. (Note: If 46.9214° = 183.5 days, so 23.46071° = 91.75 days).

Depending on this result, we can know the speed of retrograding of splaying of the shadow (V_c) on Earth's surface at 23.46071° by the following equation;

$$V_C = \frac{\theta}{t} = \frac{23.46071° \times 60' \times 60''}{91.75^d \times 86400^s} = 0.0106542733878292''/s$$

But to know the rate of oblateness (splaying), we can use the following equation;

$$C = \frac{(R_1 - R_2)}{R_1} = \frac{6387.136 - 6365.753}{6387.136} = 0.003347822$$

where (R_1) *is the equatorial radius of Earth and* (R_2) *is the polar radius.*

To know the maximum range of this oblateness;

$$C_{Max} = R_1 \times C = 30.383 \text{ km.}$$

To know the speed of retrograding of shadow's concavity on Earth's surface ($V_{\supset}$) when sunlight moves on arc from 0° to 23.46071°; we can use the following equation:

$$V_{\supset} = \frac{C_{Max}}{t} = \frac{30383m}{91.75^d \times 86400^s} = 0.00383275305278 m/s$$

At last, we can derive the following equation to know the maximum range of concavity of Sun's beam on Earth's surface ($\supset_{Max}$);

$$\supset_{Max} = \frac{V_{\supset} \times \theta}{V_c}$$

$$= \frac{(0.00383275305278m/s)(23.46071° \times 60' \times 60'')}{(0.0106542733878292461398 7284287''/s)}$$

$$= 30383m$$

Which means that: there is no gap between daytime and night. But when we depend on 23.45° we note that the line of dark is staying away from line of light on surface of Earth, and this gap (isolation cordon) reaches in maximum to 13.88 meters, when we use the ($\supset_{Max}$) equation with 23.45°.

Another evidence; when we review the kepler's first law, we note that the dark and the light doesn't penetrate out of the North or South Polar circles (depending on 23.45°), I mean that the North or South Polar circles are receiving the same amount of dark or light at all time of the year, but in my theory (depending on 23.46071 in summer and 23.42856° in winter) we note that the dark (in winter) penetrates out of North Polar circle (C-zone) double the time of its penetration in the North Polar circle in summer. And we note that the light (in winter) penetrates out of South Polar circle (C′-zone) double the time of its penetration in South Polar circle in summer. This means that the ice on arctic is more than the ice in Antarctica. For this reason, the North Polar circle is receiving heat less than the South Polar circle, and for that we find the ice sheet on north is more than the ice sheet on south of Earth. See **Figure 5**.

Overall, I have a good evidence for this collapse, which comes from nature. When I left my first home in 2003 to a new apartment, after one month of my departure, the Local Electric Company came and cut the cable which was providing electricity to my first home, and left it hanging… the wind starts to move it east and west on the wall, and the cable starts to draw a line on the wall. After two years I noted that the cable has drown two lines on the wall, as seems in the following picture (see **Picture 1**). At first, I thought it is due to the contraction and expansion, but when I noted that the end of this cable was drawing the upper line in summer, and drawing the lower line in winter, I realized that there is another reason for that, (which means; there is no effectiveness of contraction and expanding on this result). Then I decided to return to Kepler's first law, and draw
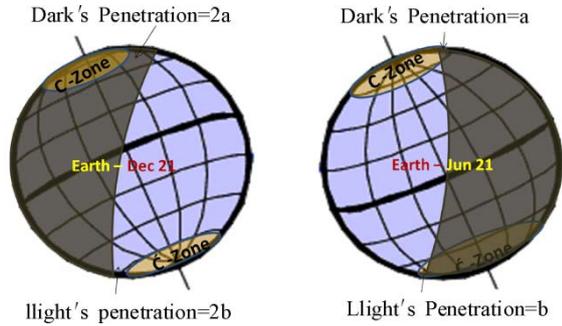
Figure 5. Wobbling of (dark and light) on polar circles.

Picture 1. The cable appears when it was drawing two lines on the wall of my home.
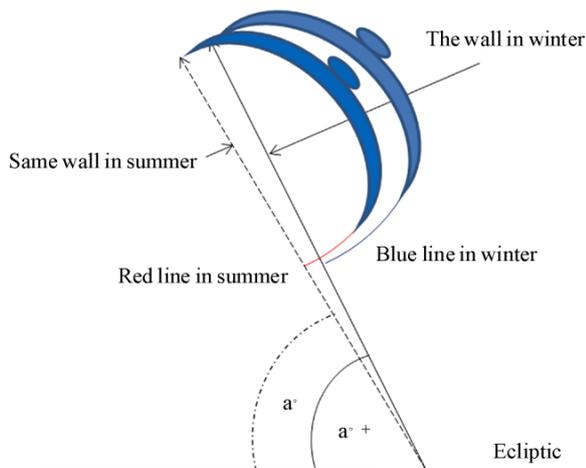

Figure 6. You can use the rule and the compass and protractor to prove that, you have to use different angles and same gap of compass and same length of wall.

these data on paper… at the end, I caught this fact:

If the angle between (EQ) and Ecliptic is steady all of the year (as seemed in **Figure 3**), the cable has to draw one line (one arc), but when we have two different angles (one in winter and another in summer, as seemed in **Figure 4**), the cable has to draw two lines (two di-
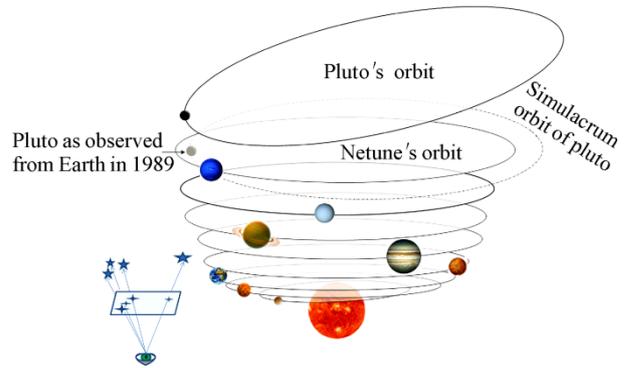

Figure 7. Coronal model and parallax.

fferent arcs) with two different directions (as seen in **Figure 6** and **Pictures 1**).

Indeed, I got the same result when I had drawn these data on my paper (See **Figure 6**).

9. CONCLUSIONS

We can say that the research achieved its objectives, and gave an answer to its questions, and brought some evidences to this collapse, which are explained in **Figures 1-6** and **Picture 1**, been checked by many equations; which were pointed in relationships (1) to (18) respectively, and finally put a new law in astronomy which can be formulated as follows:

1) There is a distance between focus of Earth's orbit and center of Sun = 27534.18 km.

2) Celestial's equator does not parallel Earth's equator.

3) Orbits of planets are built around the Sun in an exact system, as a coronal model (see **Figure 7**).

This conclusion means:

- ✓ Center of sun's mass is far away from focus.
- ✓ Major axes of the orbits of outer planets don't touch the sun's mass.
- ✓ Major axis of the orbits of the inner planets and earth passe through sun's mass, but couldn't touch the center of sun's mass.

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