THE CURRENT AUTOMATIC MODEL OF THE LINEAR 25 LUNAR TIME ZONE

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Abstract. July 10, 2026 marked exactly 2 years since the draft of the current model of the 25th lunar time zone was officially published. The linear universal reference standard of lunar time makes it possible to uniquely synchronize the global transport schedule in four environments: in space; in atmosphere; on water and on land. The LTC unified reference standard I propose performs four main functions:

1). Binding to coordinated UTC time and atomic TAI time, which are currently the main time standards used worldwide to regulate time on Earth.

2). Accuracy sufficient to support accurate navigation and science.

3). Resistance to loss of contact with the Earth.

4). Scalability for missions beyond the circumlunar space.

Keywords. The 25th lunar time zone. The current model. The linear universal reference standard for lunar time. The Magellanic date line. Stepwise circular time on Earth. Transportation schedules in four environments: in space; in atmosphere; on water and on land.

The transition from the Eastern hemisphere of the Earth to the Western hemisphere is always the transition from "today" to "yesterday" [one day is "lost"]. Conversely, the transition from the Western Hemisphere to the Eastern Hemisphere is always the transition from "yesterday" to "today" [one day is "added"]. The earth's circular global time is «staggered».

Everyone who flies from Europe to the USA from "today" to "yesterday" and back from the USA to Europe from "yesterday" to "today" meets with this.

Circular time on Earth is 24 hourly zones, basically "stepwise". These are always transitions from "today" to "yesterday" and, conversely, from "yesterday" to "today" through **the circular global Magellanic date line**, which consists of the sum of two meridians: either through the zero [0°] meridian, or through the opposite 180° meridian. Both meridians connect into one continuous Magellanic line [global ring] of date change, which passes through the North and South Poles of the Earth.

Magellan (1480-1521) and his companions did not know this pattern and paid for it by the Inquisition court for allegedly "losing" one day in the ship's log. They moved against the rotation of the Earth from East to West according to the movement of the Sun and first passed through the prime meridian from the Eastern Hemisphere to the Western Hemisphere from "today" to "yesterday".

Having rounded the Earth, they moved from the Western Hemisphere to the Eastern Hemisphere (from "yesterday" to "today"). but they didn't add one day to the calendar, because they didn't know anything about this phenomenon of crossing the date line. They allegedly "lost" one day in the ship's log.

This phenomenon of the Magellanic date line is important in navigation. During World War II, the neglect of this navigation factor severely affected pilots who transported military and civilian aircraft from the United States to the USSR through Alaska. At the same time, they crossed the Magellanic date line at 180° meridian and sometimes lost their orientation in flight time.

Flying from Alaska to the USSR through the Bering Strait, they had to add one day to the date of departure from the United States. And when flying back from the USSR to the USA, to Alaska, subtract one day from the departure date when crossing the Bering Strait.

There is the monument to the fallen pilots in Alaska. And how many automated stations have crashed on the Moon and Mars?

Unlike the Earth, the Moon's time is not stepwise, but linear, since the Moon, by its nature, is always turned towards the Earth only with its "front" side.

The Moon, in its rotation around its axis, never makes the transition from the Eastern Hemisphere to the Western Hemisphere and back.

Throughout the Moon, the "lunar" time is the same on both sides (on the "front" and on the "back"). This is a feature of the 25th lunar time zone. Time on the Moon is linear by definition. One day on the Moon (one full rotation around its axis) and one month of 28 days on Earth are the same time from the point of view of an observer located on the Sun. [4,5] *This last factor is not always taken into account*. But this is the basis of the unified lunar-solar tropical calendar, built according to the calculations of Kepler (1571-1630). Kepler used this technique to calculate Rudolphin's navigation tables in 1627.

Kepler was a Protestant, not a Catholic. He took into account the fact that the 12-month Gregorian Catholic calendar was introduced by the Vatican in 1582, and therefore Kepler did not contradict it, so as not to come into conflict with the Holy See in Rome. Kepler officially supported the new papal calendar in 1613 at the Diet in Regensburg and in 1615 in Aachen. Kepler understood that the Gregorian calendar was more accurate than the old Julian calendar, and in this regard, he was quite satisfied with it.

The Julian calendar had a much larger error than the Gregorian calendar [675 seconds per year instead of 27 seconds per year] in relation to the length of the tropical year, correctly calculated by Kepler according to his teacher, the Danish astronomer Tycho Brahe (1546-1601). The average duration of the tropical year was 365 days, 5 hours, 48 minutes, 45 seconds or 365.2421875 days or 365 (31/128) days or 31 556 925 seconds. [16]

The sailors calculated navigation exactly according to the Keplerian tropical year of the Rudolphin tables, but they used the Gregorian calendar when calculating calendar dates. The error was small and practically quite acceptable due to the low speeds of sailing vessels.

Kepler did not have time to make his own accurate tropical calendar in 1627. In 1864, such an attempt was made by Medler (1794-1874), the professor at the University of Dorpat (now the University of Tartu in Estonia) [6,7,8,9,10], in Russia under Tsar Alexander II (1818-1881), and then this attempt was repeated in 1899 by Professor Mendeleev (1834-1907) under Tsar Nicholas II.

But in 1898, the Gregorian calendar was used as the basis for calculating the ephemeris tables of the Sun and planets by Rear Admiral of the US Navy, astronomer and professor of mathematics Newcomb (1835-1909). [13]

Based on Newcomb's calculations, on March 19, 1918, the United States passed the ***Calder Act, the "Standard Time Act,"*** approved by USA President Woodrow Wilson. *This law approved the division of the longitude of the Globe along the meridians into 24 time zones.*

This law well-regulated the world steam locomotive transport schedule with its steam train speeds. Train wrecks have stopped all over the world. Electric telegraph lines were built along the railway tracks, through which the unified exact time was reported to all stations from the observatory in Greenwich.

The error of the Gregorian calendar was small [it was 27 seconds longer than the duration of the Keplerian tropical year]. This circumstance satisfied everyone.

The entire civilization on Earth has concentrated around this universal transport timetable, both economically and politically. After the First World War, the League of Nations was created. After the Second World War, the UN. The Standard Time Act in 1918 created the modern world and the United States as the world's leading power.

The whole world still uses this steam-powered calendar reference standard, although this standard has long been outdated, since the calculations of the basic Newcomb ephemeris tables themselves are outdated in principle. *In particular, they do not take into account Einstein's relativistic corrections*.

In 1983, Newcomb's ephemeris calculations were completely abandoned. The speeds have increased dramatically. The error of the Gregorian calendar in relation to the duration of the tropical year became significant when the first cosmic velocity of 7.91 km/sec was reached.

Therefore, in 2015, I proposed the new accurate, ***theoretically zero-error***, 13-month tropical calendar based on Kepler's calculations of 1627, as well as calculations of modern coordinated [UTC] and atomic time [TAI]. To mathematically align these values, I introduced the "***calendar constant***" [31/128] and applied the "***principle of calendar equivalence***." [4-5,14,15]

This made it possible to accurately calculate *the 25th hourly zone* for the Moon based on the 13-month tropical calendar, which contained 28 days per month. Coordinated Lunar Time [LTC] is nature's unique linear absolute reference standard for time on the Moon. It can be used as an absolute universal time when making navigation calculations while traveling through the Universe.

By its physical nature, the Moon is always turned towards the Earth only with its "front" side. Therefore, the same linear time takes place on both sides of the Moon. This natural uniqueness of the Moon makes it possible to offer LTC as the unified universal absolute standard reference for all astronomical and astronavigation calculations during movements in the Universe.

The beginning of the era of colonization of the Moon makes this proposal very popular for ensuring the safety of all space flights, as well as **their coordination with the modern transport schedule** on Earth (that is, it allows for universal coordination of time simultaneously *in space, in atmosphere, at sea and on land*).

This will be ***the unified universal transport schedule***, taking into account space speeds during the active space activities of human civilization in the era of total space industrialization of the entire economy on Earth and in space.

The basic 13-month tropical calendar was officially adopted by the state of Asgardia in 2019. This is **State Decree No. 38 On the Introduction of the Asgardian calendar dated 16 Capricornus 0003 (December 18, 2019).** This space calendar has been approved by the Asgardia Institute of Standards. The first publication of the reference standard of lunar time was also carried out in the journal ROOM of the State of Asgardia. **Sergei L Morozov. A time zone for the Moon. //ROOM №36, 2025, P. 82-86 [2]**

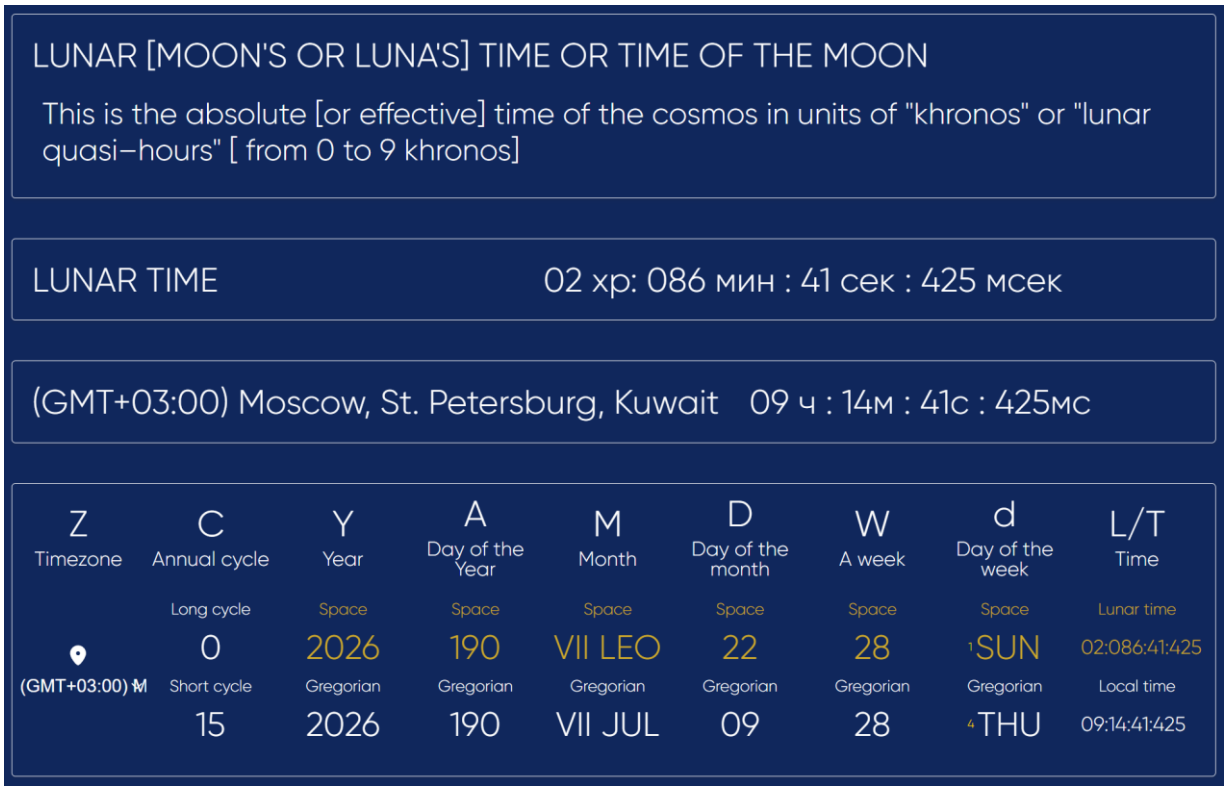
The collection of Abstracts of the Bauman Moscow State Technical University for 2026 has been published with my article on pages 38-39: **Morozov S.L. Linear lunar time of civilization is the basis of astronavigation in the Universe.** [3]

The question is relevant today. April 3, 2024 – Reuters [18] reported that the ***White House*** has instructed NASA to create the unified time standard for the Moon and other celestial bodies. *kommersant.ru; ixbt.com*.

This is a direct assignment from NASA, received from the US Government, to create the 25th lunar time zone by analogy with the 24 existing time zones on Earth under the American Calder Act of March 19, 1918.

The NASA SCaN program serves as the office of the US Agency for Space Communications and Navigation.

NASA was commissioned to develop a single time standard for the Moon and other space objects, writes [Reuters] [18] with reference to a memo from Arati Prabhakar, head of the White House Office of Science and Technology Policy (OSTP). A plan to implement Coordinated Lunar Time (**LTC**) may be developed by the end of 2026. [17]



Morozov`s calendar for the Earth and the Moon. [4-5]

Everyone will fly to the Moon and the Universe according to the unified universal lunar standard reference time. Can we recommend installing such a really working scoreboard on all control centers at NASA in Texas and ESA in Darmstadt?

All 25 time zones work here at the same time. *One* lunar day consists of 28 Earth days [or 280 chronoses].

One lunar day, therefore, is equal to *one* Earth month. Therefore, the "*zoning coefficient on the Moon*" is 1:1=1. Therefore, that's why time on the Moon is linear. In this regard, it can become the basis of the *Universal reference standard* of astronavigation in the Universe.

The Earth Day passes in 10 lunar chronos and 24 Earth hours. *One* chronos therefore contains 2.4 Earth hours [24:10=2,4].

Therefore, one lunar chronos (that is, the "lunar hour") is equal to 144 Earth minutes of 60 seconds. 24 earth hours are equal to 10 lunar chronos, 1,440 minutes, 86,400 seconds.

The lunar bright day [14 Earth days] and the lunar dark night [14 earth days] have an average duration of 140 chronoses each [14x10=140].

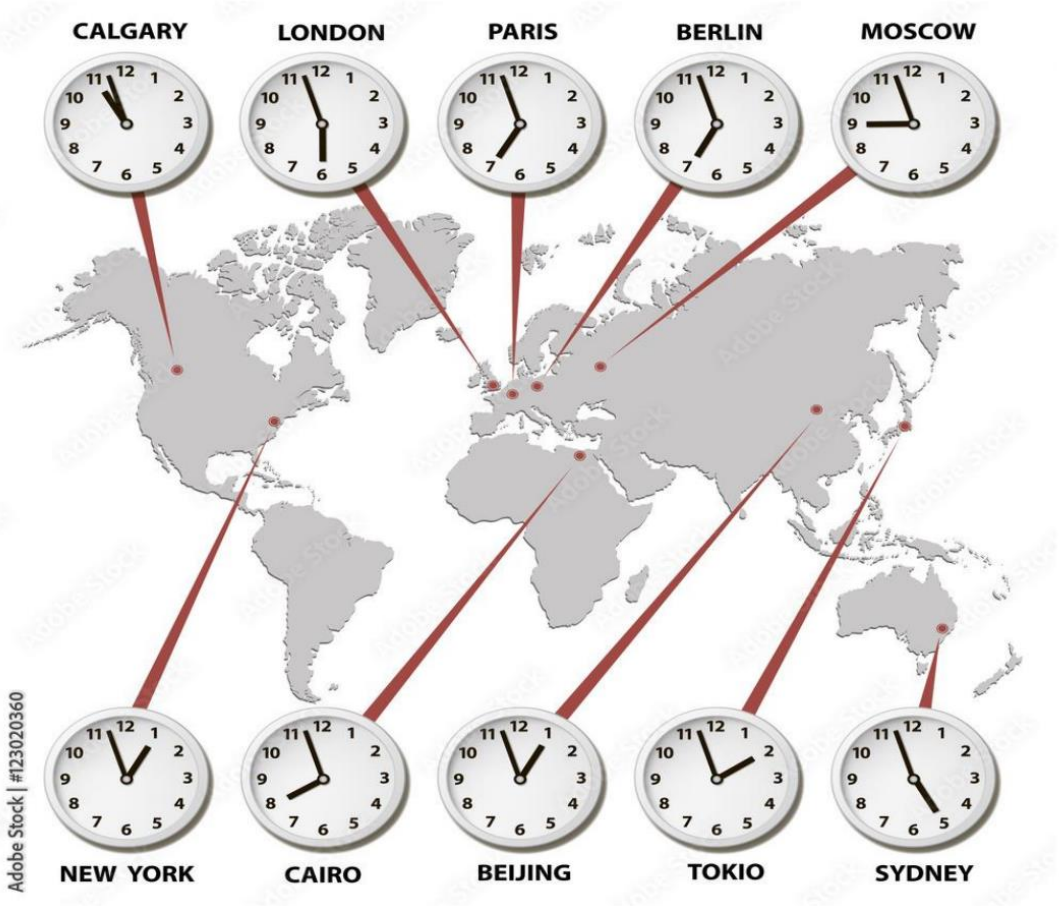
The "Kepler lunar light cycle" ["light month"] is on averages 28 Earth days.

The phase cycle of the Moon in the Jewish calendar at the latitude of Jerusalem is on averages 29.53 days [the "synodic" month].

The cycle of the Moon's rotation relative to the "fixed" stars [the "sidereal" month] is on average 27.3 days.

The Earth passes through 24 geographical time zones in one Earth Day. "*The zoning coefficient of the Earth*" is therefore equal to 1:24. Time on Earth is circular at the rate of 24 zones of hour.

The 25th lunar time zone is equivalent to the rest of the 24 geographical time zones on Earth. *They are all tied to the time of the clock at the zero [0°] (prime) meridian at Greenwich Mean time*. [1,2,3]



There is the Unified linear reference standard lunar time of the Universe for all 10 Earth time zones simultaneously. This is the unified reference standard 25 lunar time zone: 07 chr. 069 min. ULT=LTC – or for short: **07:069 LTC**.

For cosmic velocities in the Universe, this proposal to introduce the unified universal linear lunar time is ideally convenient.

On January 15, 2025, the second stage of the Falcon 9 rocket launched two landers to the Moon — ***Firefly's Blue Ghost*** and ispace's ***Hakuto-R***.

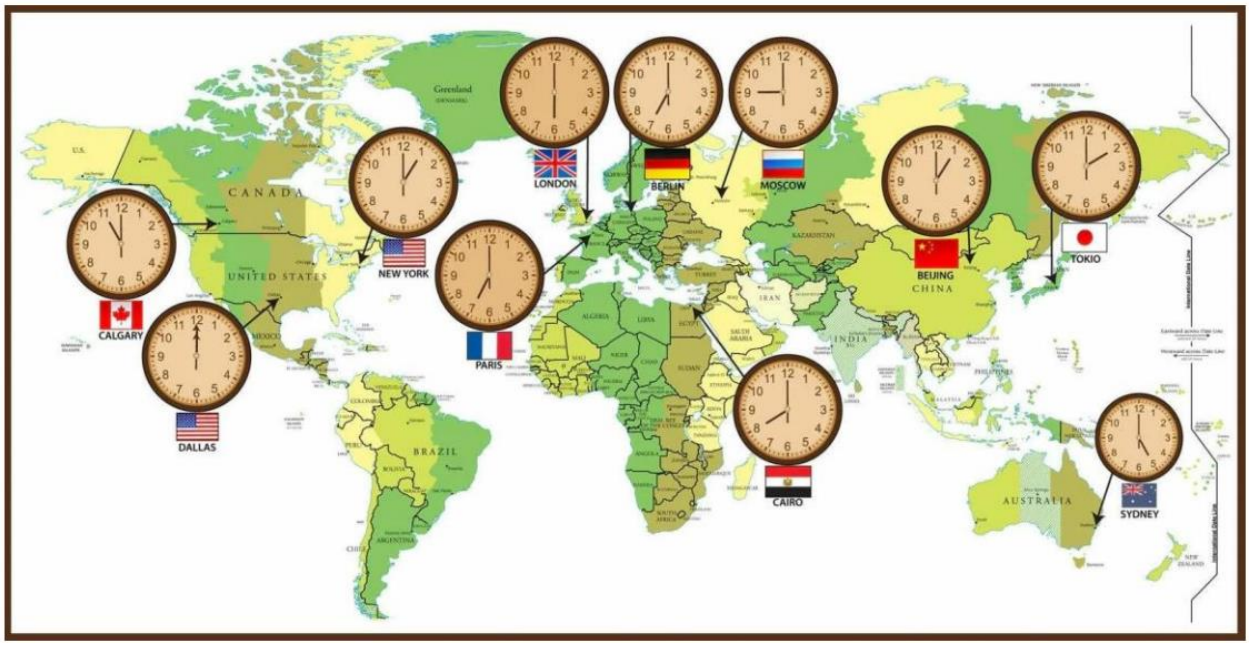
After separation, all elements of the mission — the vehicles, the fairing and the stage itself — were under constant surveillance.

The landing modules reached the Moon. At the same time, only the Blue Ghost successfully landed with the elements and components of the payload of the Asgardian space state, created and led by Dr. Igor Ashurbeyli since 2016.

The fairing of the rocket burned out in the Earth's atmosphere during the launch to the Moon.

The Blue Ghost Moon ***landing*** was carried out according to the 12-month Gregorian calendar on **March 2, 2025** at 03:34 EDT on the East Coast of the USA (or at 11:34 Moscow time) [**03:082 LTC**].

According to the unified standard of reference lunar time, we get the 13-month space calendar of Asgardia: *Aries, 5; 2025 [**9 years since the creation of Asgardia**], 03 chronos and 082 minutes - [**03:082 LTC**]*.[11]



NASA's Central Control Center in Houston simultaneously monitors 11 time zones of the Earth. For all these 11 time zones of the Earth, there is the unified linear reference standard lunar time of the Universe.

This is the Unified 25th lunar time zone: 07 chr. 072 min. – ULT=LTC – or abbreviated (for short): **07:072 LTC**.

The successful mission was conducted – the **Artemis II** manned lunar flyby program, which was conducted from ***April 1, 2026***, at 18:35 EDT [April 2, 2026, at 01:35 Moscow TIME] to April 10, 2026, at 20:07 EDT; [April 11, 00:07 GMT] (April 11, 2026, 03:07 Moscow time).

According to the 25th lunar time zone, ***the launch time*** was the same universal value for all 24 Earth time zones: 09 chronos (chr.) 059 min [or briefly**: 09:059 LTC**].

According to the 25th lunar time zone, ***the landing time*** was the same universal value for all 24 Earth time zones (00 chronos (chr.) 007 min): **00:007 LTC** (April 10, 2026, 20:07 EDT; ***April 11, 2026***, 03:07 GMT; 00:07 GMT). [12]

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