





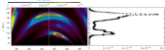











The most significant quantum processes in the functioning of the solar system


The inner 1st radiation belt of Earth  is a macro analogue of the complex of pilot waves of the series of phonons of the Lyman lines of the Hydrogen atom. The many pilot waves of the "Lyman" series around the Earth have the unique [property of accelerating of protons](#) .



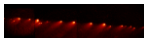
The 2nd radiation belt around the Earth is formed by the limiting elements of the level of fractal matter $n=-5$ with a [radius](#) $r_{n=-5}=18\,322.5\text{ km}$ . The belt almost does not accelerate protons, but the limiting elements synchronize all processes on the Earth, on Jupiter , on other planets and on the Sun, where they form [continuous granulation](#)  and [spicules of the chromosphere](#)  . 'Lyman' elements accelerate protons and synthesize new atoms when colliding with Hydrogen.

3rd belt , is the background, an analogue of white light  and a series of 'Balmer' lines that form coronal loops   .

The role of an electron in the solar system is played by the [limiting elements](#) of the level $n=-5$ with a radius $r_{n=-5}=18\,322\text{ km}$  . The role of the Rydberg constant in the solar system is played by an element with radius $R_{n=-5}=r_{n=-5}\cdot 2/\alpha^2=688.15\text{ million km}$ ("Lyman break") .

Jupiter moves in a potential well  with an average radius of 778.55 million km, formed by an analogue of the γ -Lyman line with a radius of 774.17 million km.

All "Lyman" elements were formed in the region of the 2nd harmonic of the limiting elements of the $n=-6$ level , with a radius of 1520.68 million km. The limiting elements form the orbit of Saturn with an aphelion radius of 1513.32 million km. Dispersive interaction at close frequencies leads to the redistribution of energy to the Saturn pilot wave and forms the orbits of other planets on the harmonics and subharmonics of the parametric resonance.

In the region of the 2nd harmonic of the limiting elements, analogues of 137 "Lyman" lines are formed near the orbit of Jupiter and form complex orbits of many Hildas and Trojans asteroids  with bizarre trajectories , the figure shows the trajectories of two typical asteroids. The "Lyman" element field has the property of an extremely efficient body accelerator. The change of asteroids from one orbital pilot waves in fans to others leads to an intensive correction of the orbits of asteroids and to their fragmentation, similar to the fragmentation of a comet near Jupiter .

. Thus, when comets are captured by Jupiter's gravity, they break up into smaller and smaller asteroids, forming the entire asteroid belt between Mars and Jupiter.

The presence of complex trajectories of the asteroids Hildas and Trojans is proof of the existence of powerful and subtle pilot wave and quantum toroidal gravitational fields, and potential wells in all planetary systems from micro- to macroscales.