International Journal of Geology, Earth & Environmental Sciences ISSN: 2277-2081 (Online)
An Open Access, Online International Journal Available at http://www.cibtech.org/jgee.htm
2018 Vol. 8 (1) January-April, pp. 15-22/Zokirov
Research Article

MEGARING STRUCTURES OF ASIA

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ABSTRACT
In this article, study was made about the genesis, formation, parameters and interaction of some megaring structures, and transcontinental faults that cover several countries of Asia, on the Google Earth system allowing studying the Planet on a global scale, which were done earlier. In addition, the reasons of emergence of mega-and daughter ring structures and their schemes are considered. The study also reveals these structural complexes and confinedness of mineral deposits and their role in formation and development of folded areas such as Tien-Shan, Pamir, Gimalaya, etc.

Keywords: Megaring Structures, Transcontinental Faults, Wrinkles, Global Tectogenesis, Powerful Potential, Impulse, Radial And Concentric Frameworks, Parent Structures, Lithospheric Plates, Daughter Ring Structures

INTRODUCTION

The cosmogeology is the one of modern fast developing field in the Earth Sciences that can be used by researchers, applied for Military purpose, providing information on the global, continental, regional, local and limited area in detail.
Till the first decades of the 21st century, we have launched over one thousand spacecrafts. The increasing popularity of cosmic images was promoted by advancement in the Internet technology. One such tool or software is Google Earth (Knizhnikov, 2011).

MATERIALS AND METHODS

Results of a decoding of digital data from the space study has helped us to reveal a series of large ring (megaring) structures and transcontinental faults, at the global level, within mountain systems of the Central Asian and the China territory.
Our Planet has infinite, huge energy which forms various but unique and mysterious "wrinkles" on the solid Earth.
Space information and analytical data show that Tien-Shan (Chakylkalyan-Karatyube, Zirabulak-Ziyaetdin, the Southern and Northern Nuratau, Kuldzhuktau, Tamdytau, Bukantau, Sultanuvays, Chatkalo-Kurama and Baysun-Kugitang, Turkestani, Zeravshansky ridges, etc.), the Aral Sea, Pamir, Alay, Kukhistan, etc. are captured by five megaring structures with diameters from 500 to several thousands kilometers (Ergashev and Zokirov, 2009). When carrying out land and near superficial researches these structures cannot be revealed, however their forms and borders visually appear to small-scale in space pictures.
As noted by Katz *et al.*, (1988), similar ring structures of planets of our Solar system play an important role in the structure of their land surface.
The origin of many of them depends upon the internal thermal condition, and also on the influence of external factors such as falling of comets, meteorites etc.
We will consider the main features of some megaring structures of Asia.

RESULTS AND DISCUSSION

The megaring structure (MRS) № 1 - has diameter with a direct trajectory within 1657.75 km, occupying about 2 155 thousand sq.km of the area and almost completely covers the regions of Tien-

Shan, Northern Pamir and the most part of Kazakhstan, Kyrgyzstan, Tajikistan, Afghanistan, Turkmenistan and China (Fig. 1).

In the South and a southwest wing of ring structure the Amu-Darya river flows, the western border of ring structure joins the Aral Sea and east side is fixed on the Lake Alakol. MRS № 1 is accurately delineated on a relief, and soil, vegetation covers a hydraulic network. In the Southern Tien-Shan, the confinedness of endogenous ore mineralization (Au, Pb, Zn, Cu, Sn, Ag etc.) occurrences and a number of hydrocarbonic basins towards a border zone of this megaring structure were traced.

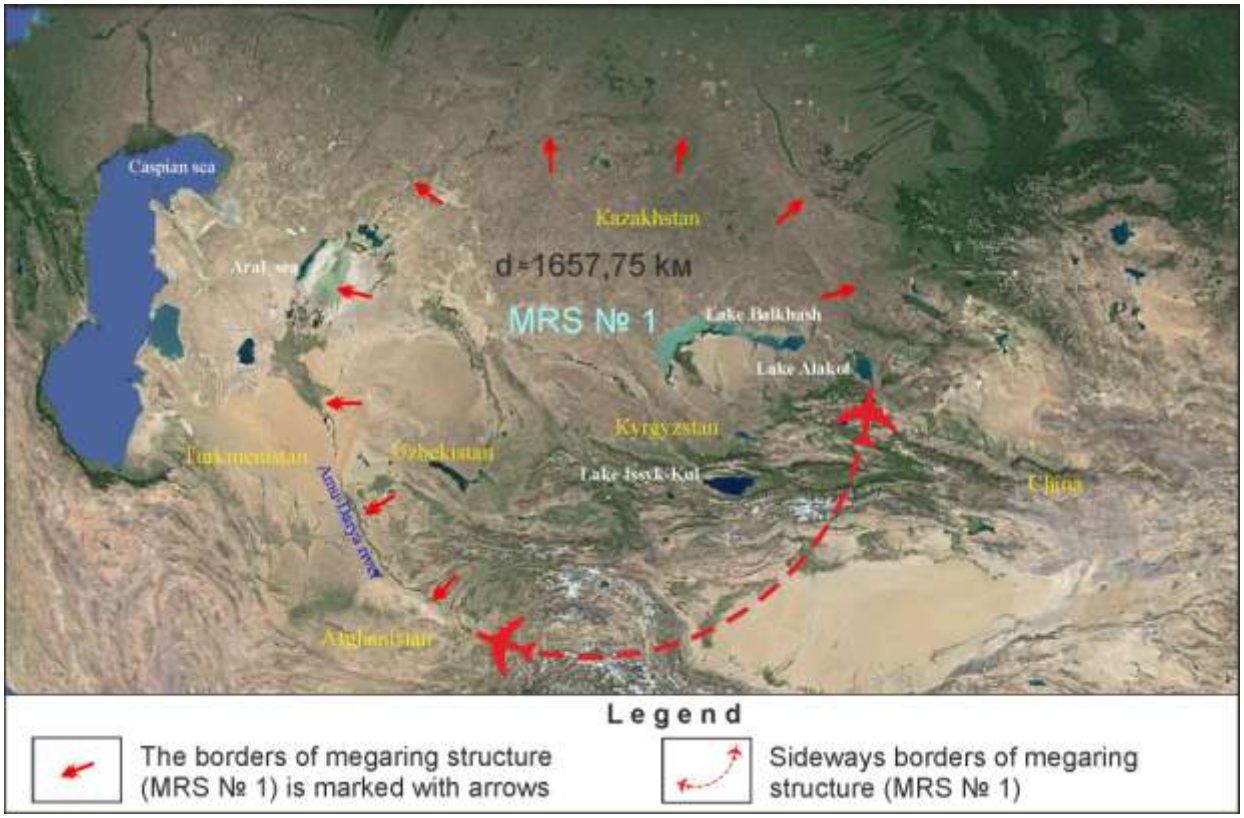

Figure 1: Megaring structure № 1 in a space picture of *Google Earth.*

The most part of the area of structure is covered with Meso-Cainozoic formations. The southern and southwest borders of MRS № 1 are defined on direct and indirect decoding signs. The southern and southeast border of MRS № 1 is completely shattered by later formed, huge young Chinese ring structure and deep transcontinental faults.

The megaring structure (MRS) № 2 diameter with a direct trajectory within 1380 km, occupies about 1 495 thousand sq.km of the area (Fig. 2). MRS № 2, is generally located in the territory of Kazakhstan and covers partially Uzbekistan, Tajikistan and Kyrgyzstan.

In the East of Uzbekistan, southern and southwest wing of structure are Turkestan, Zeravshan ridges, Central Kyzyl Kum upland which are composed of the Proterozoic and Phanerozoic formations. In the West, the megaring structure passes across the closed regions, adjoining to the coastline of the Aral Sea and proceeding to the North, connecting to MRS № 1. They cross together another 561,15 kilometer ring structure. Further in the north of Kazakhstan MRS № 2 is traced through the city of Turgay, lake Akkol, the Solnechniy settlement, and in the east passes through the town Semei, the Kokpekta village, on Tarbagatau's ridge, Lakes Alakol, Issyk-Kul and Kara-Su, At-Bashi, Bash-Kayynda settlements.

The southern and east wings of megaring structures № 1 and № 2, are destroyed when the Chinese megaring structure was formed.

The megaring structure (MRS) № 3 has diameter with a direct trajectory approximately 1037,70 km, occupying about 845 thousand sq.km of the area and (Fig. 2) it almost completely is in the territory of the Republic of Kazakhstan. The southern and southwest wings of ring structure consist of geological formations of Northern Tien-Shan. In the north it is crossed with 561,15 kilometer of ring structure. Almost whole territory of MRS № 3 is covered with Cainozoic deposits. The southern and east parts of structure are generally presented by Proterozoic and Paleozoic intrusive formations. In the eastern part of MRS № 3 the largest freshwater Lake Balkhash is located. Around this lake another ring structure with a diameter more than 500 km is developed. Perhaps, this is the Pribalkhash-Ili cosmogenic structure which B.S.Zeylik mentioned in his research. In a zone of the central dome of Pribalkhash-Ili structure, massifs of the basic and ultrabasic rocks are localized. Outcrops of some massifs to the level of a modern erosion cutoff are caused by their confinedness to a zone of the central dome of an cryptoexplosion structure where the ancient and deeply lying rocks "are uplifted" by shock-explosive influence of a space body (Zeylik, 1991).

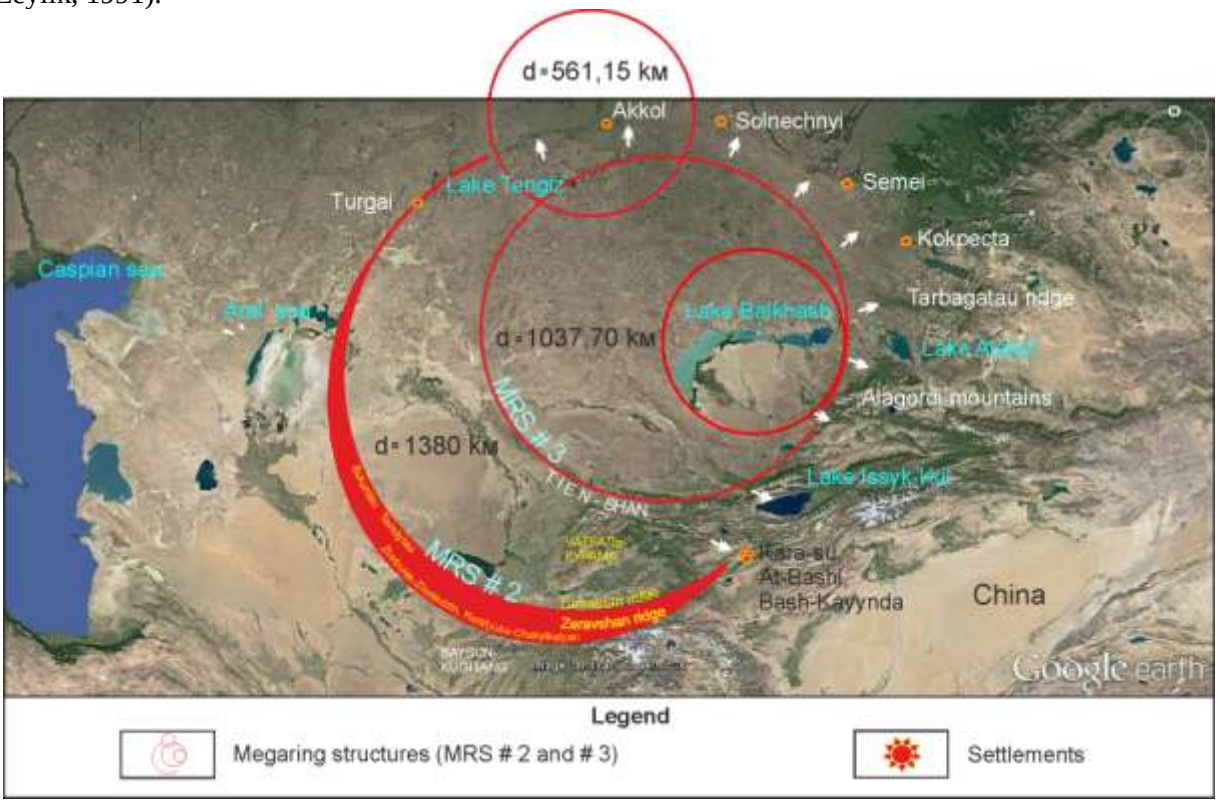

Figure 2: Megaring structures № 1 and № 2 in a space picture of *Google Earth.*

Chinese megaring structure (CMRS) № 4 (Fig. 3.) has diameter with a direct trajectory approximately 2126 km, occupies about 8 068 thousand sq.km of the area and almost completely covers a half the territory of People's Republic of China.

Its northern, western and southern wings pass across territories of Mongolia, Uzbekistan, Kazakhstan, Tajikistan, Kyrgyzstan, Afghanistan, Pakistan, India, Nepal, Bhutan. The southern and southwest wings cover the Himalayas mountains with the following mountain peaks: Everest (Chomolungma), Namcha Barva, Nanda Devi etc. The western wing of CMRS № 4 includes mountains Kukhistan, Pamir, Alay and partially Tien-Shan.

The Chinese megaring structure completely covers east and southern wings of MRS № 1 and № 2 and makes eastern frontier of MRS № 3. Northern and eastern borders of MRS № 4 are recorded on decoding character, showing morphological data of its surface.

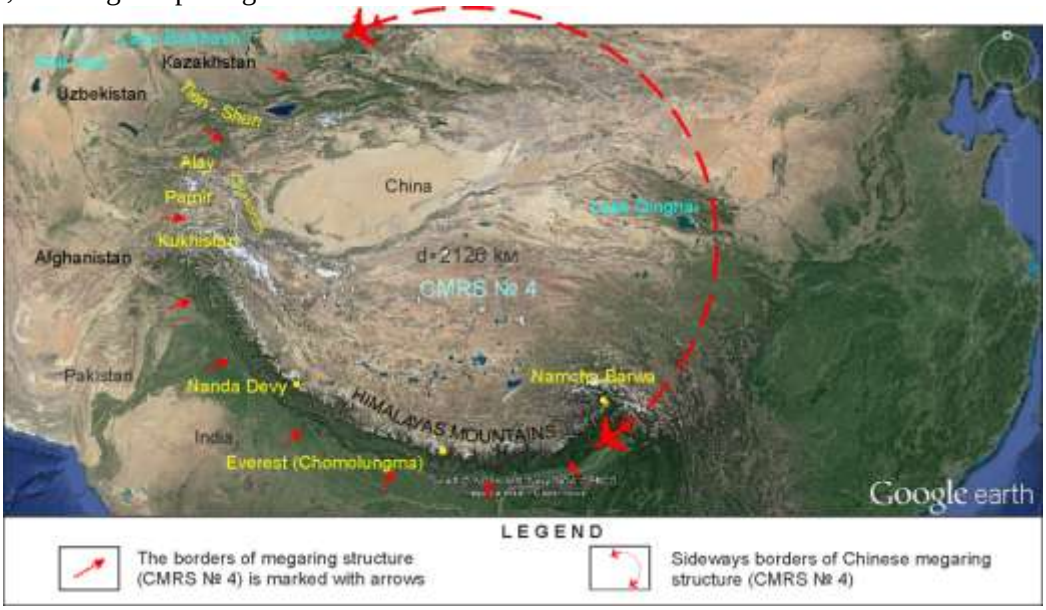

Figure 3: The Chinese ring structure in a space picture of *Google Earth*

Megaring structure № 5. The structure is polyzonal and has an oval-concentric form. The vertical diameter is about 700 km, horizontal is about 550 km, occupying about 1 226 thousand sq.km of the area (Fig. 4.). The ring structure generally covers territories of Uzbekistan (Central Kyzyl Kum, the Nurata region, Karatyube, Zirabulak-Ziyaetdin area, the west, southwest branches of Gissar and the territory located in the northeast from Central Kyzyl Kum) and Kazakhstan.

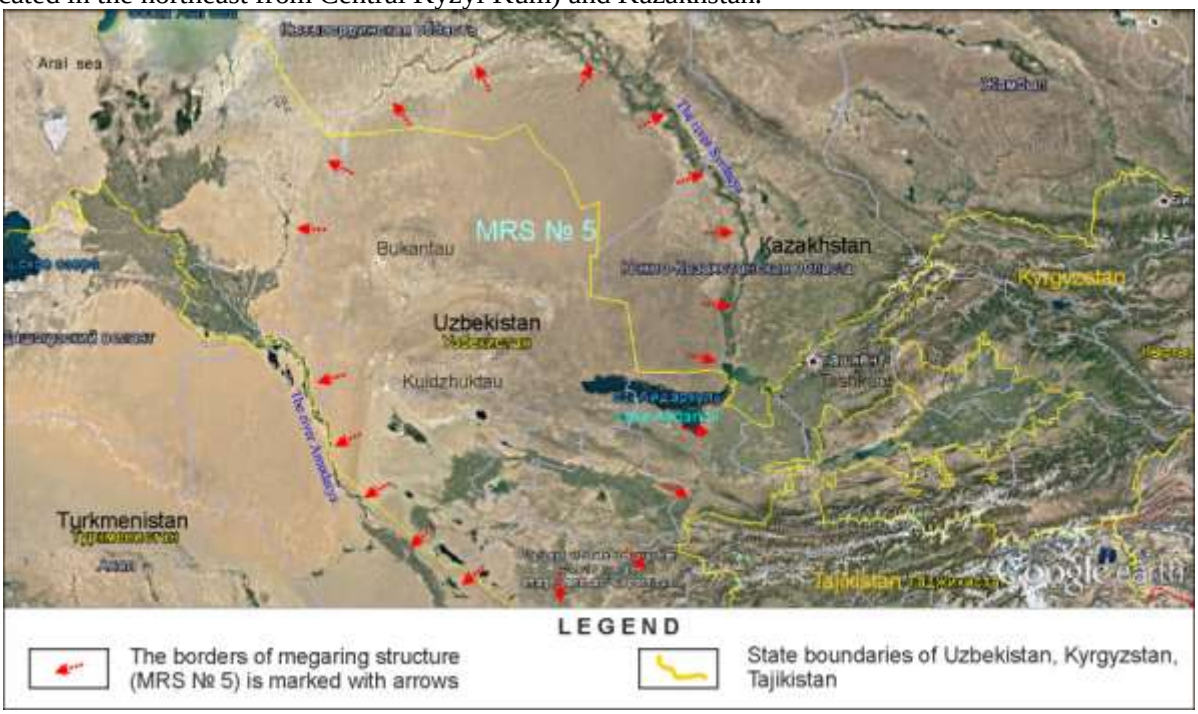

Figure 4: Megaring structure № 5 in a space picture of *Google Earth*

Its position in cosmostructure of Central Asia is very interesting. It was formed between two megaring structures № 1 and № 3, crossing northern and southern borders of MRS № 2. It is confined with faults from the South and the West on the Amu-Darya River, from the Northwest - the Kyzylorda River, from the North and the East along the Syr-Darya River. They pass across the lake Aydarkul, East part of Northern and Southern Nuratau, further between Karatyube and Chakylkalyan mountains and becomes isolated in the south.

The megaring structures revealed within Central Asia and China have a polyzonal structure. Judging by relationship of their borders among themselves, ring structures of Central Asia were formed earlier than the structure created in the Chinese territory. Zeylik 1991; Katz *et al.*, 1989; Katz, 1988; Ergashev and Asadov, 2001; Ergashev and Zokirov, 2009a; Ergashev and Zokirov, 2009b; and Yarmukhamedov, 2001 noted in their study that ring structures and lineament occurred conditionally during some stages in the history of their formation and development.

Large ring structures are formed with heterogeneous and uneven formations under the influence of various factors and during long geological period. Small ring are usually monogenic and mostly generated by one-action processes. At the same time for a number of ring structures' definition of their genesis remains a problem of the future (Katz, 1988).

According to the author, MRS № 1,2,3,4 and 5 are tectono-magmatic structures. The material complexes and structural elements formed by various geological processes take place in formation of ring megastructures: metamorphic, plutonic, volcanic, and tectonic. These structures, as a rule, have the long history of development over millions - billions of years (Katz, 1988).

The author tried to identify stages of formation and development of megaring structures within Central Asia and China.

Ring structures of Central Asia at a global tectogenesis with magmatism maintenance were formed at the first stage. They have distinctive feature - multizonality, existence of internal radial and linear frameworks and active influence on morphology and a structure of elements and components of the reliefs. They frame arched ranges of mountains, watersheds, river valleys, separate raisings and other ring-shaped components of the reliefs. The most characteristic and steady criteria for identification of similar structures are: oval or rounded form of river valleys, water currents, chains of watersheds or their areas; quite noticeable (often sharp) change of elements of a landscape (Ergashev and Asadov, 2001).

At the second stage, emergence of Chinese megaring structure perhaps, provoked occurrences of magmatic processes, i.e. intrusion and circulation of high-temperature fluids/solution, following some frames of other structures which formed in earlier (MRS № 2,3), making their broken borders, especially on the southern and east flanks.

At the third stage, two transcontinental new faults, sub latitudinal bearing - Severny and Youzhny (Fig. 5), which break borders of CMRS № 4 and influence reorganization of wings of MRS № 2 and № 3, promoting activization of fluid and magmatic flumes in the energy centers during an era of completing Tien-Shan orogenesis formation. These transcontinental faults under the influence of tectono-magmatic activization complicated the western borders of MRS № 4, dividing it into some parts of canyons in various directions. The Northern fault on a direct trajectory has more than 600 kilometers in width and about 5000 kilometers in length. The Southern one has from 50 to 300 kilometers in width and more than 4000 kilometers in length. These faults tectonics became more active toward the East-West direction.

According to Katz (1988), genetic and spatial linkages of ring structures with lineaments are difficult and diverse. They identified three bond types between ring structures and lineation: 1. Lineations are primary structures and ring structures are secondary; 2. Ring structures and lineation are formed at the same time and are closed interconnected genetically; 3. Ring structures are primary and lineament are secondary.

In our case, megaring structures of Central Asia are primary in relation to lineament.

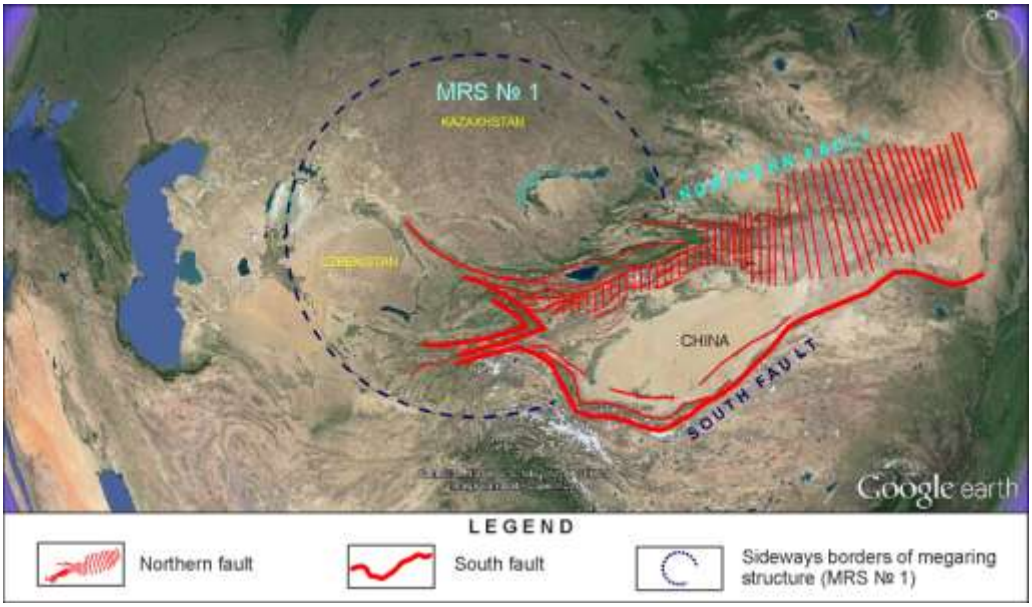

Figure 5: Northern and Southern transcontinental faults in a space picture (*Source*: Google Earth)

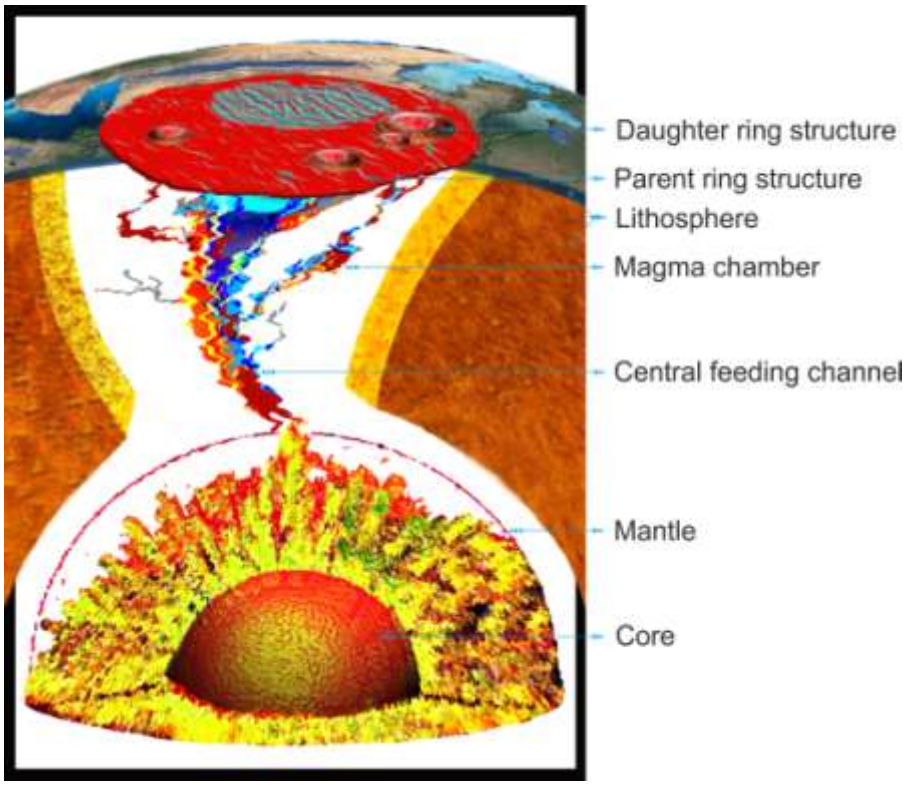

Figure 6: Scheme of formation of endogenous ring structures

The size of ring structures depends on the powerful potential of the nuclear centers. The more deeply the power center is located, the more powerful potential formation of large ring structures. By modeling it is defined that depth of the center is equal to radius or 2/3 parts of diameter of ring structures [7].

Proceeding from the considerable diameter of MRS № 1,2,3,4,5 and their occupied huge space, the author assumes that formation of megaring structures is an impulse of the radical power center of the mantle (Fig. 6). Emergence and generation of energy in the mantle centers happened owing to internal components and chemical reactions and also due Earth axial rotation and rotation around the Sun, as well as mutual gravitation of planets of the Solar system. Collected energy concentration condenses and then, its density and resistance increases. When the concentration, pressure and resistance exceeds a point of the culmination and become higher, than pressure of lithospheric bark, a powerful power wave stream in the mantle pulses vertically and pointwise on Earth surface. Thus in rocks the decompression, loosening, cracks with emergence of intermediate spatial emptiness is formed. It was a push initiation to tightening and transfer of free mass energy pathway - pickuped gas, liquid into easily mobile phases. It resulted into formation on Earth surface - lifted blocks, downwarping in the form of the ring structures or radial and concentric frameworks serving as channels for distribution and transportations of products of the energy centers. When a powerful hot stream on Earth surface is raising, the central feeding channel in the form of a long trapezium can be of an opposite type (Fig. 6).

Discussion

According to the author, such form is caused by distribution of the rocks and metals having different physical parameters (density, hardness, specific weight, plasticity, etc.) depending on an arrangement, covering a kernel from Earth. Rocks and heavy metals having higher physical parameters placed in the depth of Earth, and with more, smaller physical parameter are closer to a surface.

In core and mantle rocks and metals having higher physical parameter strongly hold a powerful energy pathway, providing its transit and rising high-speed to the top level. Coming nearer to the top layers, the energy pathway with a high pressure, volume and temperature in wide coverage destroys easily rocks, dissolves and assimilates around itself, expanding ways for raising from the bottom upwards. As it comes closer to a surface of Earth, diameter of the central feeding channel increases, forming a long trapezium of an opposite form.

Formation of parent structures and long-repeated energy pulsation from the mantle, led to occurrences of the vertical, inclined, subdiagonal and horizontal magmatic centers in parent structure. Because of their activization, it was formed small-sized affiliated ring structures of different range within maternal space of primary ring structures. Perhaps, the movement of lithospheric plates influenced their formation as well. When the plates are moving in lithosphere, the central feeding channel of parent megaring structures started gradually losing connection with energy center of the mantle (Fig. 6.).

Gradual break led to decrease of energy pathway, which was not sufficient for reformation of new megaring structures, by the size biger than primary ones. However, the arriving energy at dissociation, accumulating into the maternal space in the magma chambers, creating conditions for the subsequent activization and emergence of small-sized daughter ring structures.

All existing ring structures of an endogenous origin in Uzbekistan, has their own metallogenic features at the same time are closely related to the daughter ring structures of MRS № 1.

The use of space data/information of modern "Google Earth" system in the Earth science gives many opportunities to make structural and tectonic and metallogenic zonality of the studied territories. In addition, possibility of processing of primary space data of global scale allows opening more specific information about our planet.

Certainly, the decoding is a hard work. Thus cosmogeologist has to seek reconstruction of the remains and traces for the geo-objects to be formed billions of years ago, constructing a past mosaic for disclosure of any natural phenomenon helping to optimize scientific and geological researches.

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