

NEW METHODS OF PROVIDED IN REMOTE SENSING FOR INVESTIGATING THE EARTH

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ABSTRACTS

New methods that provided remote sensing worked with connection of forming complex nature (Geography, Biology, Meteorology, Agriculture and Forestry etc.) and technical (Physics, Radiotechnic, Radiophysic and others). Science of the new direction - Radiogeography that is having object of investigation which is called Radiogeosystem (Energosystem) - part of the earth's surface from isomorphosed structures of radiation in the given territory, that posses homogeneous signal. New methods can study radioforming structures that can work in a more operated ways etc. Forest areas (Dendrogenius needles radiogeosystem) can be taken as good example to show the effectiveness of our methods basically in classification of leaves of plants (trees). Leaves of the last end is called primary order. Trunk called leaves of the higher order. Needles and Auxiblast can have zero order. Leaves and other quasiflat reflected (radiated) posses I (negative order).

These ways and other worked methods are not in a way to define concrete forming volumes of this and other radiated parts, parts of the next object in real, that can exists within elementary radiated parameter (reflection) and different from one another in its volume. Dividing the Natural boundaries with the use of the next record in the concrete volume that can be formed by the radiation itself. In such case maximum comparable spectral will be reached and energy characteristics of the next natural objects.

KEY WORDS: Interpretation, Radiogeography, energy formation, structure, function, method, classification of leaves.

INTRODUCTION

Effective use of materials of remote sensing has been lagging in solving the new and complex problems when we are trying to use the old, traditional ways and different methods of field investigation. Many years of experience used materials from remote sensing are showing the possibility of studying complex and variable reflection - with radiated properties of the natural objects using new methods and methodology which can take us to the new approach how to solve problems.

DISCUSSION

In more traditional ways geographers are using interpreted materials of remote sensing like geosystems - forest - water for the case of forestry, agricultural subjects for agricultural production etc. In this condition every specialist has to take into consideration the old and the tradition methods that can contribute a key role for the best use of remote sensing accuracy. Classification as the rule are not matching. All received results can not be compared with others. To put apart one from another is also a difficult task because of the lack of adequate comparison from the objects itself as a whole. For example, microwaves signal can be formed only on the upper part of the tree's roots, while comparison can be made with the forest's biomass, etc. Such adequate results had forced for the new scientific direction, that is connected with so many subjects like geography, agriculture, forestry, meteorology, radiophysics, physics, radiotechnic and new ways of studying the earth's surface (ways and phenomena that is formed by the earth's cover and secondary radiation which is related to the space and time). This way of investigation had risen in 1980 and got the name Radiogeography. It can intergrate with subjects mentioned above and it has its peculiarity in receiving new information with the help of radiation and reflection from the geographical landscapes (objects). Here we have to emphasize the lack of adequate knowledge about primary and secondary radiation up to this time in this country.

Radiogeography has its own objectives of investi-

gation - Radiogeosystem - like diversity of geosystem which deals with place and its surface within a changeable time, isomorphical radioforming structures and radiation from the center of given territory (area) - that can have homogenous property of primary or secondary radio signal (Nekos V.E., 1986). Main structural unit of radiogeosystem is called Radioformation-volume. Without understanding this term it is not possible to have adequate comparison spectral manner of the natural objects which volumes is connected with elementary reflection (radiation) effect of electromagnetic energy.

It can study two types of function "function of development" and "function of operation". The results of these function can be called space-time - radiation of radiogeocharacteristics.

New methods can supply remote sensing that is formed with the connection of needed studied radiogeosystem (energosystem), radioformation volume, operated function, etc. (Nekos V.T., 1989). We can take one best example for forest cover (Dendrogenius radiogeosystem) from the new methods to test the application of our method in reality.

Vegetation covers are called the most difficult objects - when only observation can be used in studying them. In theory of Radiogeosystem investigation (Nekos V.E., Butenko V.I., 1988) it divided into method of structure and functioning of dendrogenius radiogeosystem. When we say structure it means quantity-space-distribution of stable and timely existence of elements (diffusion, radiation) auxiblasts, leaves and braches, etc. With the existence of their connection and relation in the volume of radiogeosystems, vertically within in their volumes that can be identified by the distances recorded from their highest position situated elementary component up to lower boundaries of effective radiated layers of soil, snow depth or depth of ice or water.

Proposal and use of new ways in investigation is the law of branches. It allows us to put particular row providing possibilities of personal general characteristic in grouping differences in the structure of trees. The new can be different from

the traditional which was used in forestry especially in observing leaves in the following ways. Leaves I order defenation can not be form the leaves that are getting out from trunk, the smallest leaves at the end of the bud. The growth of the I order can form the II order. Place of growth of the two of II order is called the beginning of the III order, etc./Fig.1/. In such way numbering the order of the leaves can supply us with information about their geometrical sizes, degree of movements from their outer boundary chrom green and others. This can be allowed by natural boundary of division on consisting parts, fulfil oriented role in forming signal of defined diapason.

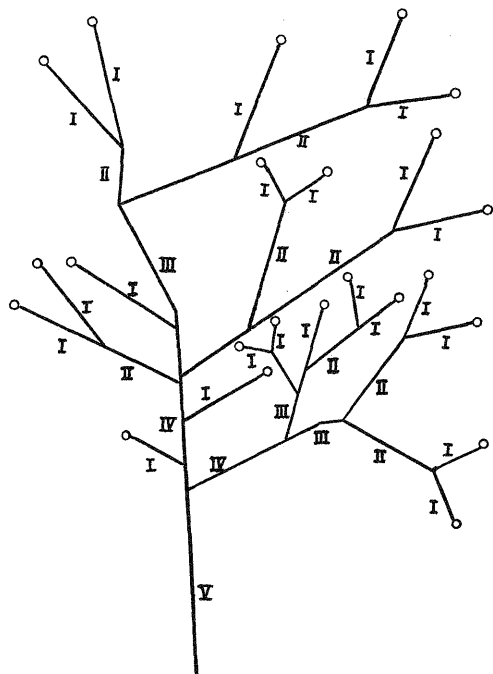


Fig.1. Identification of branches on the tree.

Classification of leaves of the plants for the aim of radiodiapason was not having enough information if we are not take into consideration leaves, needles, etc. In most cases the last can play the main role in giving information (transformation) about physical fields. Therefore all quasi and cylindrical elements going out from leaves of I order, needles, auxiblasts.

This kind of way can provide us the following general law:

1. The lower the order of electromagnetic component

in the given difference, the greater the accumulation of component that can form signals.

2. Form of all elementary component not negative in the first order can be nearer to approximated cylinder, while all components of negative order can remain - flat.

3. All components having I order are called component of short time existence, while all components having not negative order can be depend on type of energosystem. They can exist in the form of stable, all times of the year, in some periods of season or regime.

Depending on the statements of classification, worked system (Nekos V.E., 1969).

CONCLUSION

Presented new method can provide us with new received qualitative character (qualitative - in statistical base) which is needed and satisfy all diapason energy characteristic (parameter-structure-and function) in the next usage of specified aspects of investigation. Suggested ways can define our study or used parameters of elementary reflection (radiation) and their energy formation (radioformation) property, such as:

1. properties of the substance is defining by complex dielectrical permeance;
2. property of first forms and their changes;
3. property of space in stow (urotsishe) (in local and regional);
4. property of the low that oriented in space and its change (in part, property of wind lability);
5. property, defining temperatures with their characteristics (head capacity, head conduction).

Using some traditional methods (some times transformed in the concrete objects) and new radiogeographical method can provide as with all objective interpreted materials with the help of remote sensing.

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