**THE NETWORKS SIT**

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The all-encompassing monograph of Galushkin A.[1] embraces all aspects of networks but usual traditional approaches to networks are through classical mathematics, in particular through usual conformity operators. Here consider another approach – through new mathematics partition with containment operators, which though may be interpreted as a result of some conformity operators, but themselves are no conformity operators. The containment operators are more convenient for networks. Also main lay stress on the processors use, which work with triodes use, that does not use in Sit-networks in mainly. Sit-networks is represented by Sit-structure, which may constructed for necessary weights. Sit-OS (Sit operating system) are used Sit-coding and Sit-translation. In the first the coding is realized through 2-measured matrix –row (a,b), where the number b – the code of the action, the number a- the object code of this action. Sit-coding (or Self-coding) is realized through the matrix, which has 2 columns (in continuous case- 2 numbers intervals). Here initial coding is used for all matrix rows simultaneously. Sit-translation is realized by the inversion. In this case self-coding and Self-translation will be more stable in particular. The target weights fi in $St\_{a}^{\{fx\}}$ are chosen for necessary tasks. We will touch no questions of the applications, optimization of networks. They are detailed by Galushkin A.[1]. We touch difference of it for complex networks hierarchy only. The same simple executing programs are in the cores of simple artificial neurons of type Sit (designation - mnSt) for simple information processing. More complex executing programs are used for mnSt nodes. Sit-threshold element –sgn($St\_{b}^{\{ax\}}$), b- mnSt, x=(x1,x2,…,xn) – source signals values, a=(a1,a2,…,an) – Sit-synapses weights. The first level of mnSt consists from simple mnSt. The second level of mnSt consists from $St\_{D}^{\{mnSt\}}$ – Sit-node of mnSt in range D, D- holding capacity for mnSt node. The third level of mnSt consists from $St\_{D}^{\{St\_{D}^{\{mnSt\}} \}}$- Sit2- node of mnSt in range D, thus D becomes capacity in itself for mnSt. The usage of Sit2- nodes of mnSt is enough for our networks, but self level is more higher in living organisms, in particular Sitn-, n≥3. Target structure or corresponding eprogram by corresponding self-code enters to target block by means of alternating current. After that here takes place the activation of all networks or its part according to indicative target. May arise the opinion that we go out from networks ideology, but in fact networks presents complex hierarchy with capacity in itself of different levels in living organisms. Remark. Traditional scientific approaches through classical mathematics allows to describe only on usual energy level. Here is approach- on more thin energy level.

In mnSt are $St\_{mnSt}^{\{eprograms\}}$, $eprogram-$executing program in Sit- OS. In this connection Sit-OS (or Self-OS) is based on Sit-assembly language (or Self- assembly language), which is based on assembly language through Sit-approach in turn in the case of the sufficiency of the Sit-networks elements base. The eprograms are in Sit-programming environments ( or Self - programming environments ), but this question and Sit-networks base will be considered in next articles. In particular, eprograms may contain Sit- programming operators. In mnSt cores the constant memory Sit with correspondent eprograms depending on mnSt.

.The ideology of Sit and S3f [2] can be used for programming. Here are some of the Sit- programming operators.

1. Simultaneous assignment of the constant$s \left\{p\right\}=(p\_{1},p\_{2},...,p\_{n})$ to the variables $\left\{а\right\}=(а\_{1},а\_{2},...,а\_{n})$. It’s implemented through$ St\_{х}^{\left\{\left\{а\right\}:\left\{p\right\}\right\}}$.
2. Simultaneous check the set of conditions $\left\{f\right\} = \left(f\_{1}, f\_{2, } ...,f\_{n}\right)$ for a set of expressions$\left\{B\right\} = \left(B\_{1}, B\_{2, } ...,B\_{n}\right)$. It’s implemented through $St\_{х}^{IF\left\{\left\{B\right\}\left\{f\right\}\right\} then Q}$ where Q can be any.
3. Similarly for loop operators and others.

$S\_{3}f$– software operators will differ only in that aggregates $\left\{а\right\},\left\{p\right\},\left\{B\right\},\left\{f\right\}$ will be formed from corresponding Sit program operators in form (1) for more complex operators in form (2) [2].

Quite interesting is the Sit-OS , the principles and modes of operation of the Sit-networks for this programming. But this is already the material of the next articles.

Here is based on the elements of Sit – physics and special neural networks with artificial neurons operating in normal and Sit – modes, a model of a helicopter without a main and tail rotors was developed. Let's denote this model through Smnst. To do this, it’s proposed to use mnSt of different levels, for example, for the usual mode, mnSt serves for the initial processing of signals and the transfer of information to the second level, etc. to the nodal center, then checked and in case of anomaly - local Sit – mode with the desired "target weight" is realized in this section, etc. to the center. Here, in case of anomaly during the test, Smnst is activated with the desired "target weight". Here are realized other tasks also. To reach the self-energy level, the mode $St\_{Smnst }^{Smnst } $is used. In normal mode, it’s planned to carry out the movement of Smnst on jet propulsion with the conversion of the energy of the emitted gases into a vortex, to obtain additional thrust upwards. For this purpose, a spiral-shaped chute (with "pockets") is arranged at the bottom of the Smnst for the gases emitted by the jet engine, which first exit through a straight chute connected to the spiral one. There is a drainage of exhaust gases outside the Smnst. Otherwise, Smnst is represented by a neural network that extends from the center of one of the main clusters of Sit - artificial neurons to the shell, turning on into the shell itself. Above the operator's cabin is the central core of the neural network and the target block, which is responsible for performing the "target weights" and auxiliary blocks, the functions and roles of which we will discuss further. Next is the space for the movement of the local vortex. The unit responsible for Smnst's actions is located below the operators' cab. In Sit – mode the entire network or its sections are Sit – activated to perform certain tasks, in particular, with "target weights blo". In target block are used Sit-coding, Sit translation for activation all networks to "target weights" simultaneously, then –the reset of this Sit-coding after activation. Unfortunately, triodes are not suitable for Sit -neural network. In the most primitive case usual separaters with corresponding resistances and core for eprograms may be used instead triodes since there is not necessity in the unbending of the alternating current to direct. The belt of Sit-memory operative is disposed around central core of Smnt. There are Sit-coding, Sit-translation, Sit-realize of eprograms and of the programs from the archives without extraction theirs.

Sit – structure or a eprogram if one is present of needed «target weight» are taken in target block at Sit – activation of the networks. It’s used electric current of ultrahigh frequency and ultra-violet light, which are able to work with Sit – structures in Sit – modes by it`s nature for an activation of the networks or some of its parts in Sit – modes and at local using Sit – mode. Electric current of ultrahigh frequency go through mercury bearers that overheating does not occur. The power of the alternating current of above high frequently increase considerably for target block. The activation of all network is realized to indicative “target weights”.

**Supplement:** Calculus of uncertainties of type sin∞ and their use

Earlier we considered finite-dimensional discrete Sit-elements and capacities in itself [2]. Here we consider some continual Sit-elements and continual capacities in itself. For example $S\_{\infty }^{+}$= sin∞ has such type. It denotes continual ordered capacities in itself of next type—the range of simultaneous “activation” of numbers from [-1,1] in mutual directions: $\uparrow I\downright \_{-1}^{1}$. Also we consider next elements: $S\_{\infty }^{-}$=sin(-∞)--$\downright I\uparrow \_{-1}^{1}$, $T\_{\infty }^{+}$= tg∞--$\uparrow I\downright \_{-\infty }^{\infty }$, $T\_{\infty }^{-}$=tg(-∞)--$\downright I\uparrow \_{-\infty }^{\infty }$, don’t confuse with values of these functions. Such elements can be summarized. For example: a$S\_{\infty }^{+}$+b$S\_{\infty }^{-}$=(a-b)$S\_{\infty }^{+}=(b-a) S\_{\infty }^{-}$. Also may be considered operators for them. For example: f$S\_{\infty }^{+}$(t-t0)=$\left\{\begin{matrix}S\_{\infty }^{+} , t=t\_{0}\\0, t\ne t\_{0} \end{matrix}\right.$ . Namely such elements are used for Sit-coding, Sit translation, coding self, translation self, what for electric current of ultrahigh frequency is suitable. May be considered more complex elements as continual sets of numbers with mutual directions “activation” them. For example, ranges of functions values, in particular, functions, which represent lightning form. Also may be considered n-dimensional elements. The space of such elements is Banach space if we introduce usual norm for functions or vectors excluding their exceptions. We call this space-- Selb-space. Then we introduce scalar product for functions or vectors excluding their exceptions and get hilbert space. We call this space-- Selh-space. In particular, may try to describe some processes with these elements by differential equations and to use methods from [3]. Let’s introduce operators to transform holding capacity to capacity in itself:

Q1S(A) transforms A to f1SA, Q0S(A) transforms A to $t$ , SO(A) transforms A to$\uparrow A\downright \_{}^{}$,$ \uparrow A\downright \_{}^{}$ -- ordered capacity in itself of simultaneous “activation” of all elements of A in mutual directions. For example, SO([-1,1])=$ S\_{\infty }^{+}$, SO([1,-1])=$ S\_{\infty }^{-}$ , SO([-∞,∞])=$ T\_{\infty }^{+}$, SO([∞,-∞])=$ T\_{\infty }^{-}$. Operator (Q1S(A))2 increases self level for A: it transforms Self-A= f1SA to self2-A, (Q1S(A))n → selfn-A, $e^{Q1S(A)} \rightarrow e^{self}-A. $ Also may be considered dynamical continual Sit-elements, where may be transfer these definitions, operations using [4] on them by analogy.

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