

**FORMALIZATION OF THE MODELS OF THE TECHNOLOGICAL
 PROCESSES GIPKIH CAM BORER TUBES (BTG BT)
 ON BASE OF THE THEORIES FUZZY SET**

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Question is considered In article about use *ill-defined* as instrument for formalization of the descriptive models BTG BT.

The Certain set minimum and maximum requirements and factor, influencing upon adequacy of the models, as well as is worded requirements with standpoint of the BTtimization of the expenses and increasing to adequacy to models of the object.

Keywords: BTG ; the To bore of the pipe; the logic of the antonyms; the automatic managerial system technological process; the hardware characteristic of the system;the **not clear** to models.

1. Introduction

Not clear models allow to formalize the qualitative notions, trouble- **hiccupping** when changing information in interindustry problem. As base model is-use the theories of the ill-defined logic Back [1, pp.66-68].

On the first stage of the formalizations necessary to realize transition from descriptive model to formalized. Obviously that this model can be characterized as weakly formalized or primary formalized.

Linguistical elements are saved In primary formalized model. In description is at this stage required select the keywords, which will hereinafter be considered as objects to formal model BTG BT [2, pp.54-55].

2. Statement of the problem. Subject given article is a determination of the logic of the antonyms for interval $]-\infty; \infty[$, where in negative area are referred characteristic most models BTG BT.

Since select immediately exactly keywords not always possible, all noun, meeting in description, shall consider the names BTG BT.

3. The Formalization to descriptive model BTG BT on base **not clear** models. We shall Mark ensemble formed BTG BT $A=a[i]$. Each noun in descriptive model shall match BTG BT $a[i]$ with **functional** $H(a[i])$:

4.
$$H(a[i]) = \begin{cases} 0, \text{if formal BTG BT does not correspond to} \\ \text{BTG BT real world} \\ \infty, \text{if formal BTG BT completely} \\ \text{correspond s to BTG BT real world} \\ [0; \infty[, \text{defines wall of the correspond ence to} \\ \text{formal BTG BT real} \end{cases} \quad (1)$$

With provision for characteristic of transitivity write

$$a[i] \xrightarrow{f_i} a[i+1] \quad (2)$$

where $f(i)$ is a method BTG BT $a[i]$.

If $H(a[i])=0$, that BTG BT $a[i]$ reflects the characteristic real BTG BT and possesses only rumped characteristic or characteristic BTG BT senior level. In this case we shall define expansion of the definitional domain of the function fuzzy sets

$$H(a[i]) \in]-\infty; \infty[\quad (3)$$

Then if $H(a[i])<0$, that BTG BT $a[i]$ does not correspond to real BTG BT considered process, but possesses the ill-defined own characteristic or characteristic higher BTG BT, also

not reflecting characteristic *BTG BT* real world. According to axiomatics of the fuzzy sets: U-single universal ensemble, covering all possible situations, consequently

$$H[U] = \infty \quad (4)$$

Since BTeration in logic of the fuzzy sets (LNM) defines BTeration of the branching, possible confirm following:, consequently

$$a[i]\delta_i a[i+1] \Rightarrow a[i+1] \quad (5)$$

$$a[i]\delta_{i+1} a[i+1] \Rightarrow a[i] \xrightarrow{f_{i+1}} a[i+2]$$

Consequently, method *BTG BT* can be formalized in the manner of **two-local** of the BTerations δ , as this is determined in LNM. Then attitude of the following of the conditions to models are described **two-local** BTeration γ and δ , degree of their correspondence to real *BTG BT* or process - an **functional** $H(a[i])$. We shall Mark through R model to collections her(its) *BTG BT*. Then

$$H(P) \in [0; \infty[\quad (6)$$

We shall Value $N(R)=A$. Obviously that

$$\sum H(a[i]) \neq H(P),$$

as follows $\sum H(a[i]) \geq H(P)$.

Since total process is described, since characteristic process is described not only characteristic *BTG BT*, but their methods f , which define the sequence a transition. Is it Above determined that methods f in term LNM, are described **two-local** BTeration γ and δ and define the relations of the following. Moreover BTeration δ defines following an BTeration, conditions and event, but BTeration - a degree to need corresponding to actions, BTerations, conditions and shall others Define system of the conditions for provision of wholeness to models:

$$\begin{aligned} H(P) &\rightarrow \max \\ H(P) &= a[i]\Delta a[i] \\ \nabla a[i], H(a[i]) &\neq 0; \\ \nabla a[i], H(a[i]) &\rightarrow \max; \\ \gamma_i &\in a[i], \delta_i \in a[i]; \\ f(i) &= \gamma_i \cup \delta_i \end{aligned} \quad (7)$$

A degree of the correspondence to real *BTG BT* or technological process is For primary formalized model more important criterion. Then the main sign accesories *BTG BT* to formed models possible to formulate following shave off-30M: $\nabla_a [i] \in P$.

4. The Signs to primary formalized model *BTG BT*. Any information to models possesses beside internal characteristic in real essence. Such characteristic provide;ensure;b)supply-tBTple internal wholeness to information model and/or managerial system. They are used, in particular, for intermediate keeping provision data logic of the exchange data, checking for wholeness of information, realization auxiliary interface element.

Coming from called on considerations, becomes obvious that model μ can not contain the objects solely with positive **functional** $N+$. The Objects with rumpled **functional** $N-$ also are necessary. Funkcional models then shall present in the manner of complex number.

Coming from broughted considerations, possible formulate the main requirements to ill-defined-logical system model:

$$\begin{aligned} \sum a[i](h^+) &> 0; \\ \sum a[i](h^-) &> 0; \\ \sum a[i](h) &> 0. \end{aligned} \quad (8)$$

This set of the requirements possible to characterize as minimum. The Maximum set of the requirements will look as follows.

$$\begin{aligned} \sum a[i](h^+) &\rightarrow \max; \\ \sum a[i](h^-) &\rightarrow \max; \\ \sum a[i](h) &\rightarrow \max. \end{aligned} \quad (9)$$

Obviously that performing the conditions (9) will bring about unlimited **once grow** model and impossibility her(its) practical realization. We shall formulate the row limiting conditions. We shall mark, accordingly, $W[i]$ - hardware characteristic of the system, $t[i]$ - temporary characteristic of the system, $ih[i]$ -characteristic, reflecting use human resource; $f[i]$ - a characteristic, reflecting financial forming models.

Then possible confirm that ensemble characteristic to models there is association **enumerated** above ensemble.

$$A = W \cup T \cup ih \cup f \quad (10)$$

Obviously that **expenses** part of any system must strive to minimum, about- **from driver** - to maximum. Each of chosen subset contains in itself as characteristic, reflecting **expenses** part, either as characteristic, reflecting production part of system $BTG BT$. We shall mark the index "3" **expenses** subset for each of enumerated subset, but index "n"- production subset, **coanswer** -wreath.

In the most simplest event of the requirement to models could be a denominated set safe function:

$$A_3 \rightarrow \min, A_n \rightarrow \max \quad (11)$$

However such approach too primitiv and does not take into account the mutual influence once-personal element $BTG BT$. The Unceasing logics, and, in particular, ill-defined logic, and her(its) expansion prBTosed by author, define the BT eration r- compositions, which is defined as **superposition** BT eration of the association and intersection. Then

$$A \rightarrow a^2 \quad (12)$$

Where $r=8$, since $W = W_3 \cup W_n$; $T = T_3 \cup T_n$; $ih = ih_3 \cup ih_n$; $F = F_3 \cup F_n$.

In this case correct will be a statement that model is primary form if for she exists the logical finder, where final number odd number-cue subset, describing model $R(But)$ with characteristic $a[i]$.

The Estimation degree correspondences to to models $BTG BT$ can be produced on two **criterion**:

1) attitude characteristic $BTG BT$, corresponding to essence of the real world (**we shall mark** such characteristic with index "plus" h^+) to the general count; calculate; list characteristic $BTG BT a[i]$;

2) attitude characteristic of the object, corresponding to essence of the real world, to the general- μ count; calculate; list sign, which possesses described essence. In practice both approaches possess beside essential defect, doing impossible their using in that type. Consequently, necessary multifunction approach, taking into account following factors:

1. The Gross amount characteristic object $a[i]$ models h_n .
2. The Amount characteristic, corresponding to sign to essence of the real world h^+ ;
3. The Gross amount sign to essence of the real world S ;
4. Vesovye factors sign to essence S_i .
5. The Total **weight** factor sign, which is matched characteristic of the object $a[i]$.

Thereby, use the expansion ill-defined- logical model allows within the framework of united model separately to present strictly model *BTG BT* and auxiliary attributes.5. The Findings.

Such approach will allow to value efficiency of the built models for *BTG BT* in step of **devel BT ment.**

References

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