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# «Metrological Support of Innovative Technologies» ICMSIT-2020

## «ECONOMIC ASPECTS OF MEASURING TECHNOLOGICAL PROCESSES»

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# Problem statement

Measurement and control of technological processes over their implementation has a number of problems:

- on the one hand, there should be many control points that provide a timely assessment the current state of the system, the formation effective management influence to correct its trajectory;
- on the other hand, continuous monitoring is too expensive and burdens the information system with redundant data;
- another problem is the presence of a large number of benchmarking, the number which increases with the development management theory.

# Solution methods

The authors propose an approach to determining the frequency and scale of measurements and control based on critical principles rationality and efficiency. It allows you to determine the necessary and sufficient number of control points.

Measurement and control of technological processes is carried out on the basis universal metrics: "work", "speed", "time", "acceleration".

# Conclusions

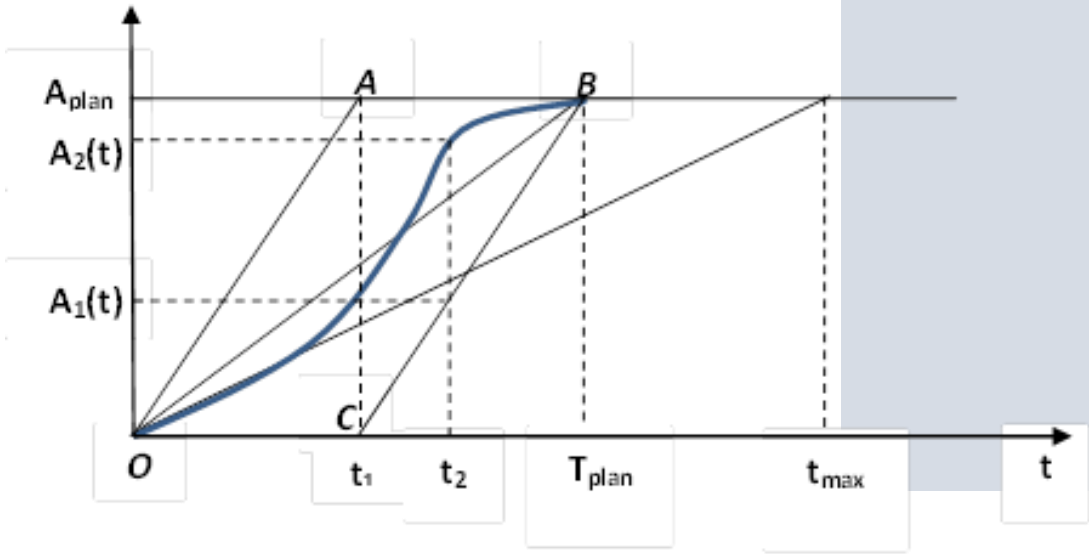
The frequency and scale of measurement and control is determined mathematically or graphically

- The mathematical method assumes calculation by the formula:

$$t_{i+1} = t_1 + \frac{A_1\,(ti)}{A_{plan}} \times (t_{plan} - t_1)$$

$t_{(i+1)}$ – time of the next control procedure;
$t_1$ – time the first control procedure;
$A_1(ti)$ - the actual amount work performed at the time cont
$A_{plan}$ – the value the process indicator;
$t_{plan}$ – planned time process execution.

- The graphical method involves plotting a curve of the process:



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