

ABSTRACT

Bachelor thesis: 111 p., 38 fig., 6 tabl., 4 append., 24 sources.

System diagnosis of regular PMC structures

FAULT-TOLERANCE, SYSTEM-LEVEL DIAGNOSIS, CLIENT-SERVER, DISTRIBUTED SYSTEMS, PMC, MODELING, HUFFMAN METHOD, COMPRESSION CODING, LZ77, LZMA, HUFFMAN, RLE.

Purpose of the research: to increase the productivity and reliability of the functioning of autonomous distributed systems. Object of research: algorithms and methods of system diagnostics of distributed systems.

Subject of research: is construction of system diagnosis models for fault-tolerant distributed systems and processing of diagnostic data.

The considered methods and algorithms and their modifications can be used to study the problem of diagnostics of malfunctions of optical networks with an autonomous model of connection of communication lines. The study shows that the complexity of the malfunction management system in all optical networks can be reduced. A regular PMC structure for systematic diagnosis is proposed and formalized.

The Huffman method implementation is developed in the programming language C. Comparison of data compression for software gzip, bzip2 and xz are carried out.

The main results were published in works: Kovalenko A.E., Overchuk O.S. Huffman compression of test data in system-level diagnosis models. *Радіоелектроніка та молодь XXI-століття*: Матеріали XXI Міжнародного молодіжного форуму «Радіоелектроніка та молодь XXI-століття», т.8. Харків: ХНУРЕ, 2017.С.76-77.

Kovalenko A.E., Overchuk O.S. COMPRESSION OF TEST DATA IN REGULAR PMC DIAGNOSIS MODELS. *Сучасні проблеми електроенергетики та автоматики*: Міжнародний науково-технічний журнал молодих учених, аспірантів і студентів, т.3. Київ: НТУ«КП», 2017.С.353-354.