



## PRIMENA FTA METODE KOD PROCESA DOBIJANJA POLIAMIDA 6 U SISTEMU ZA POLIMERIZACIJU U VK - CEVI\*

### APPLICATION FTA METHODS FOR THE PROCESS IN OBTAINING THE POLYAMIDE 6 IN THE POLYMERIZATION SYSTEM IN VK - PIPES

Jasmina Miković, Fakultet inženjerskih nauka u Kragujevac, [jasminamikovic89@gmail.com](mailto:jasminamikovic89@gmail.com)

**Rezime:** Predmet rada se odnosi na projektovanje pouzdanosti kod procesa polimerizacije kaprolaktama koji se odvija u reaktorima sistema sa VK – cevi. Kroz razvijeni model, određene su karakteristike i pokazatelji pouzdanosti, a time i utvrđeni osnovni faktora koji doprinose lošem odvijanju procesa. S obzirom na mogućnost njihove kontrole, mogu se smanjiti očekivani gubici, i na taj način postići kvalitetnija proizvodnja sinterovanog poliamida 6. Za analizu je primenjena deduktivna metoda zasnovana na formiranju šeme stabla otkaza sistema na bazi induktivnog zaključivanja. Pri ovome korišćeni su standardizovani logički simboli, pravila Bulove algebre i matematičke logike. Dobijeni rezultati kvalitativnom analizu pouzdanosti posmatranog procesa, omogućavaju dobijanje informacija o verovatnoći neželjenog događaja procesa.

**Ključne reči:** polimerizacija, VK – cev, kaprolaktam, poliamid, FTA.

**Abstract:** The case of work related to reliability of design process of polymerization of caprolactam, which takes places in a reactors systems whit VK-pipes. Throughout developed model, the specific characteristics and reliability indicators, and thus established the basic factors that contribute to poor progress of the process. Considering the possibility of their control, can be reduced the expected losses, and achieved in that way better production of sintered polyamide 6th. For analysis is applied deductive methods based on the fault tree formation scheme of the system based on inductive reasoning. At this logic we used standardized symbols, rules of Boolean algebra mathematical logic. The obtained results of the qualitative analysis of the reliability of the observed process, deliver information about the probability of unwanted event process.

**Key words:** polymerization, VK-pipes, caprolactam, polyamide, FTA