USING OF TEMPLATE MATCHING METHOD TO DETECT DEFECTS IN PRODUCTION OF BULLETS

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Abstract

The identification defects process bullets production is done by PT. PINDAD still use manual inspection or rely on human. Therefore, a research is needed in order to make identification more efficient and faster.

In this research, the author does a digital image acquisition. Furthermore, the image processing is performed starting from image reading, cropping, resizing, grayscaling, image enhancement through the filtering and thresholding process. After the digital image processing is done, the next process is Template Matching that will be done by calculation of the POC (Phase-Only Correlation) which will generate the POC value between the reference image and template image that shows disability level of a bullet displayed on the image.

From 21 images data of defect bullets divided into 9 defect images type I (visible defect) and 12 defect images type II (invisible defect), 4 images data is detected to defect type I with percentage 44.44 % and 4 images data is detected to defect type II with percentage 33.33 %.

Key words: Defect Detection, Template Matching, Bullets Defect, Image Processing, Phase-Only Correlation (POC).