

## Object detection on GaN quantum wells SEM images incorporating YOLO network Model

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In this paper, we present a model for detecting GaN pyramids in SEM images which relies on the strong use of data augmentation, due to the complexity of microscopic structures. A procedure has been developed to generate synthetic images for training the algorithm owing to this fact real images are hard to be prepared and labeled. In the next stage, YOLO algorithm has been employed for the object detection process. A minimum confidence of 70% for detecting real objects has been realized together with this fact that test and train accuracy and loss prove significant convergence.

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