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(54) Title: INTERPRETABLE DEEP LEARNING-BASED DEFECT DETECTION AND CLASSIFICATION

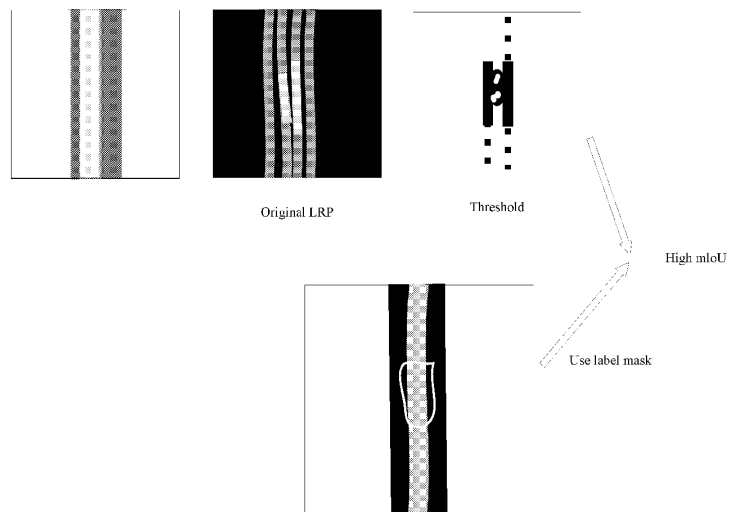


FIG. 5

(57) Abstract: An explanation of a detection/classification algorithm made using a deep learning neural network clarifies the results that are formed and helps a user to identify the root cause of defect detection/classification model performance issues. A relevance map is determined based on a layer-wise relevance propagation algorithm. A mean intersection over union score between the relevance map and a ground truth is determined. A part of one of the semiconductor images that contributed to the classification using the deep learning model based on the relevance map and the mean intersection over union score is determined.

[Continued on next page]

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