

FULL-WAFER DEFECT MAP

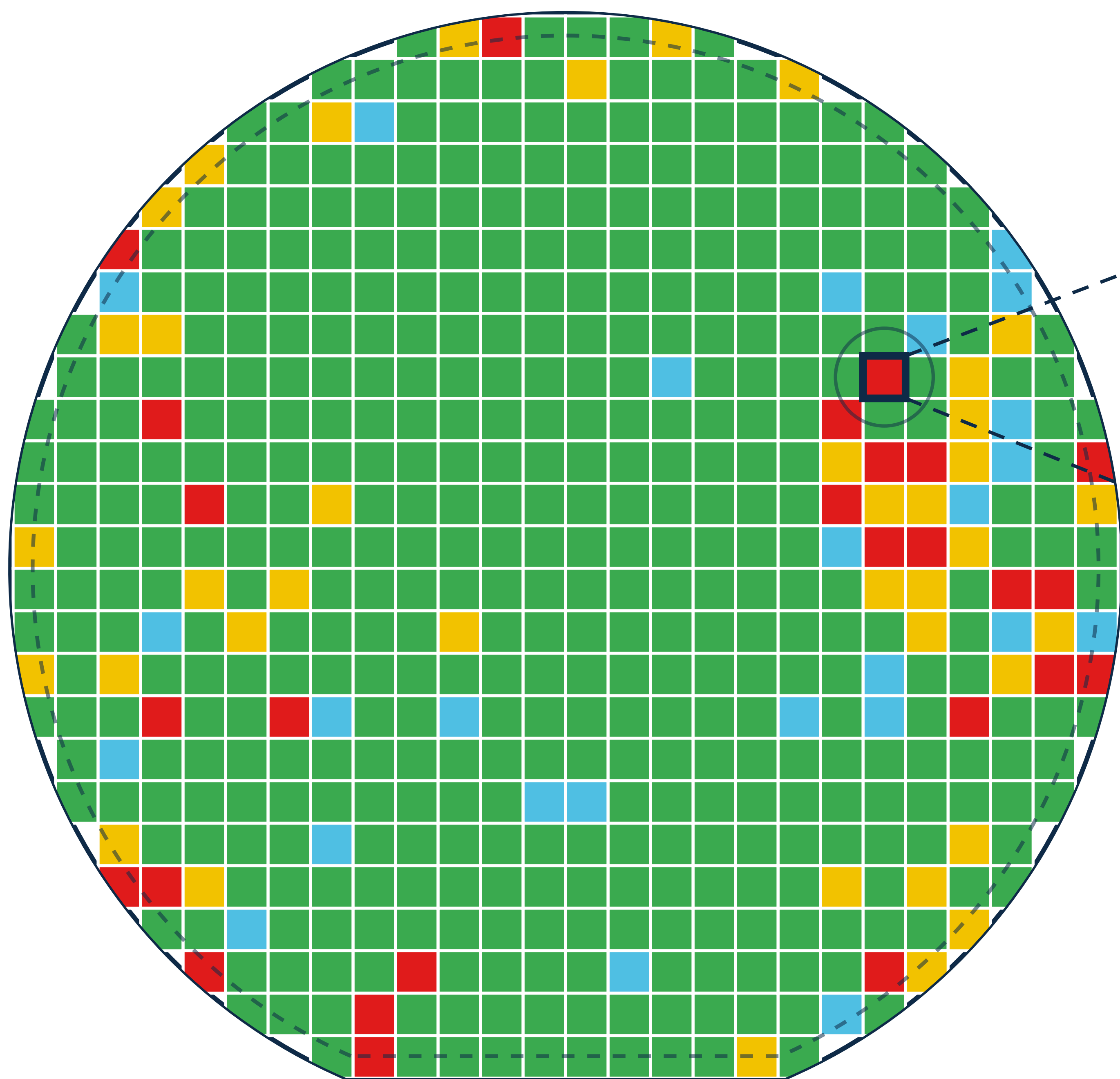
SiC EPI WAFER / Bipolar Degradation Simulator

UNDER DEVELOPMENT

Poster PDF
includes specs

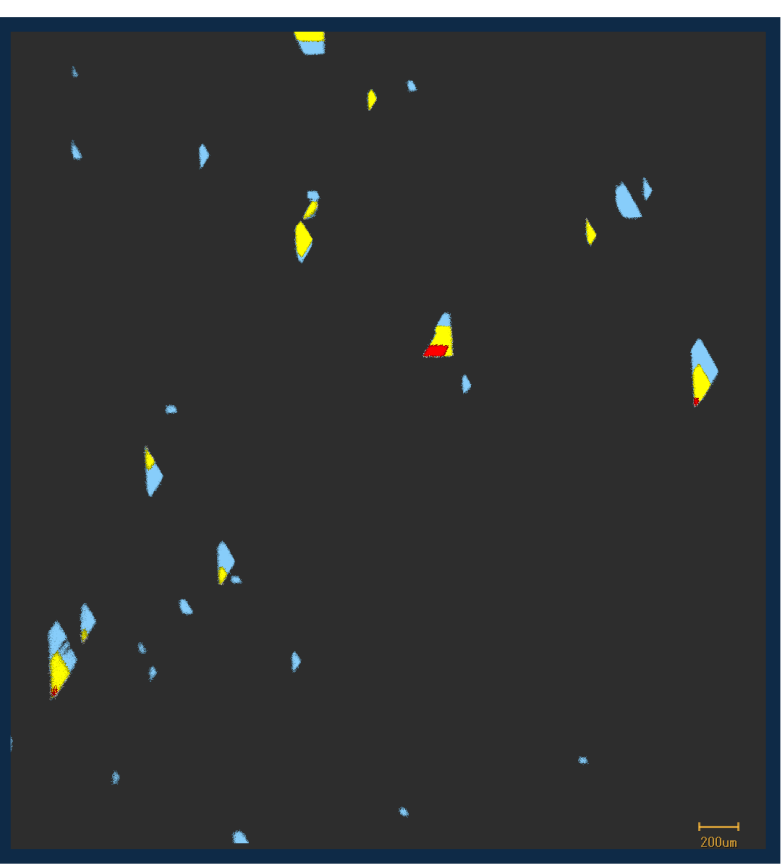


Not how many defects — but **where**, and **how weak**.



6-INCH (150 MM) WAFER

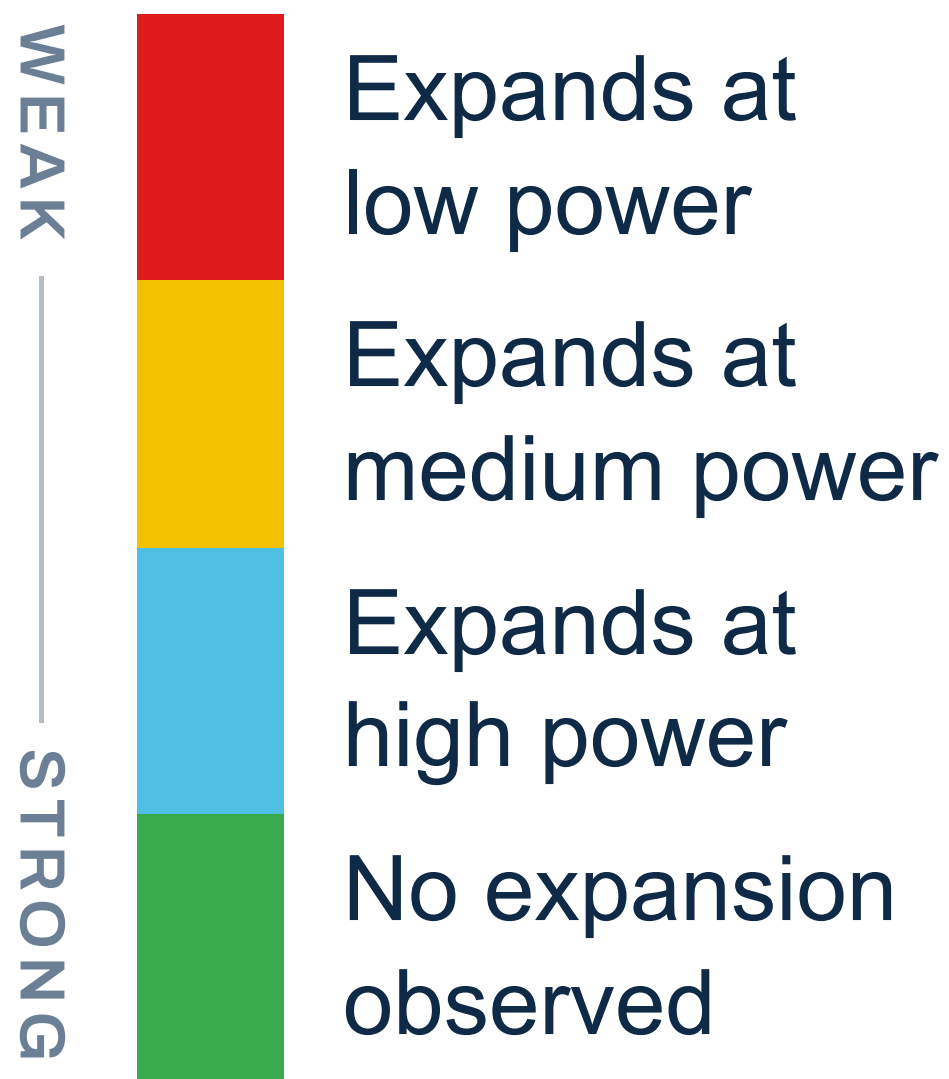
DETAIL / 1 SITE



Each site is one PL field of view. Its colour is the UV intensity at which the weakest defect in that site began to expand.

Colour marks the area a defect gained under UV — that growth is what is counted.

DEGRADATION RESISTANCE RANK



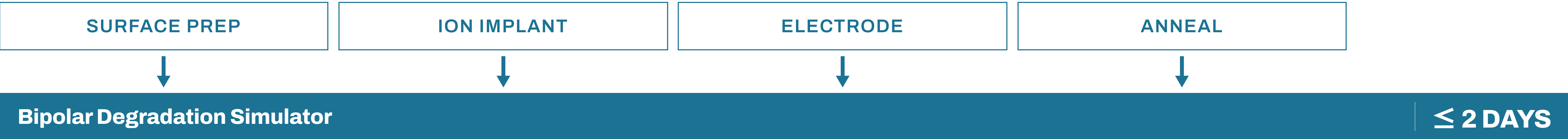
EVALUATE AFTER ANY PROCESS STEP

CONVENTIONAL

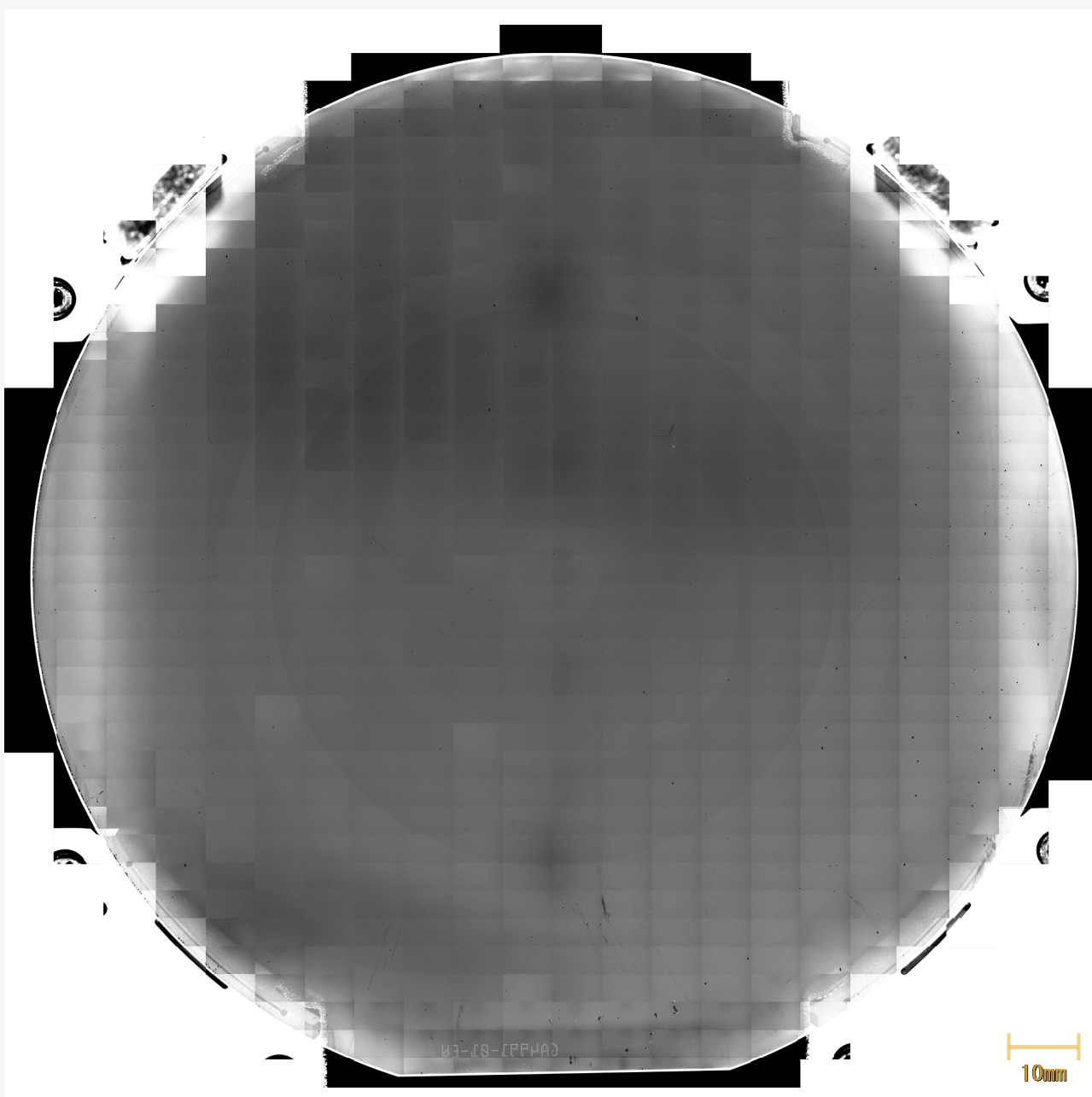


No verdict until the full device is finished and electrically tested

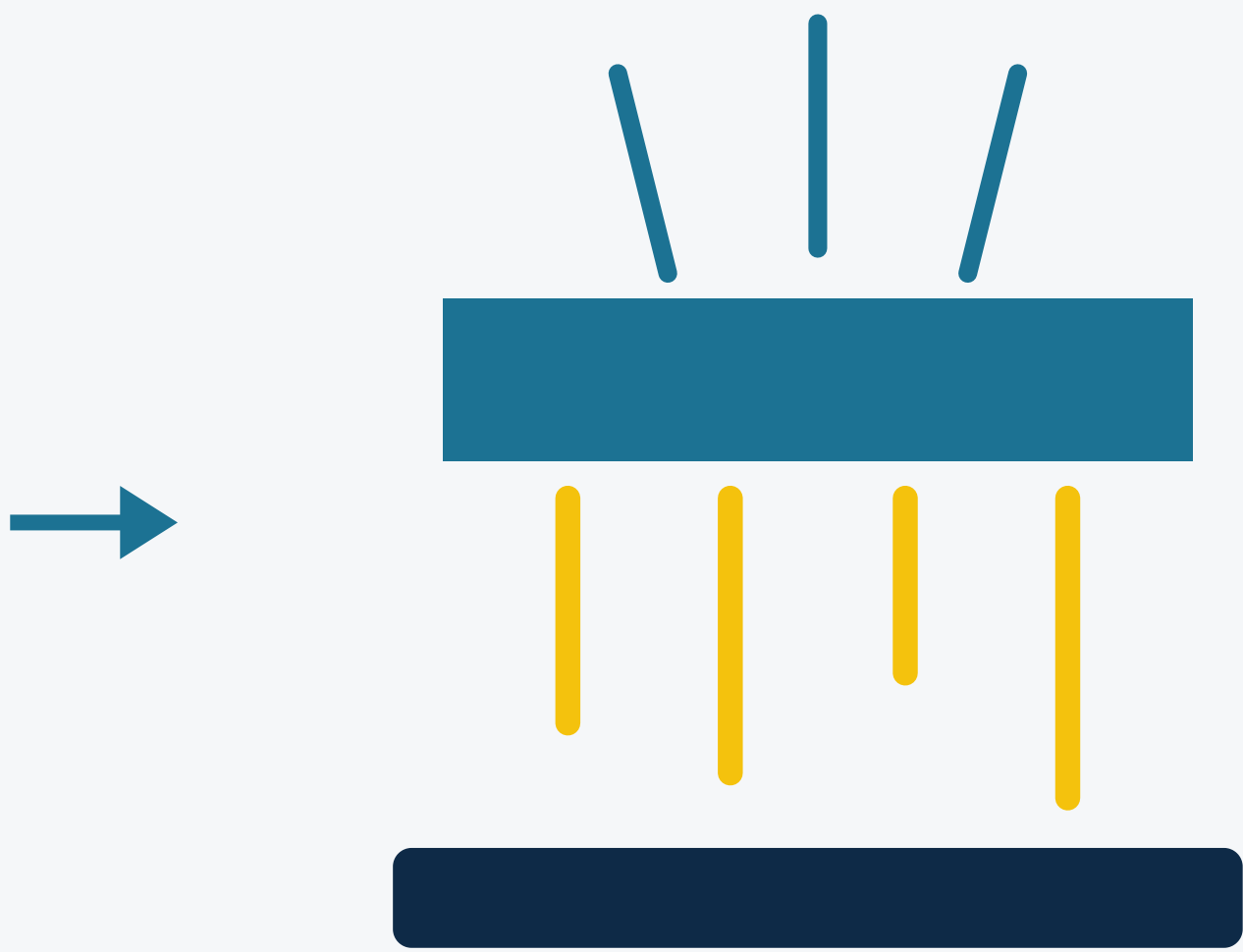
THIS METHOD



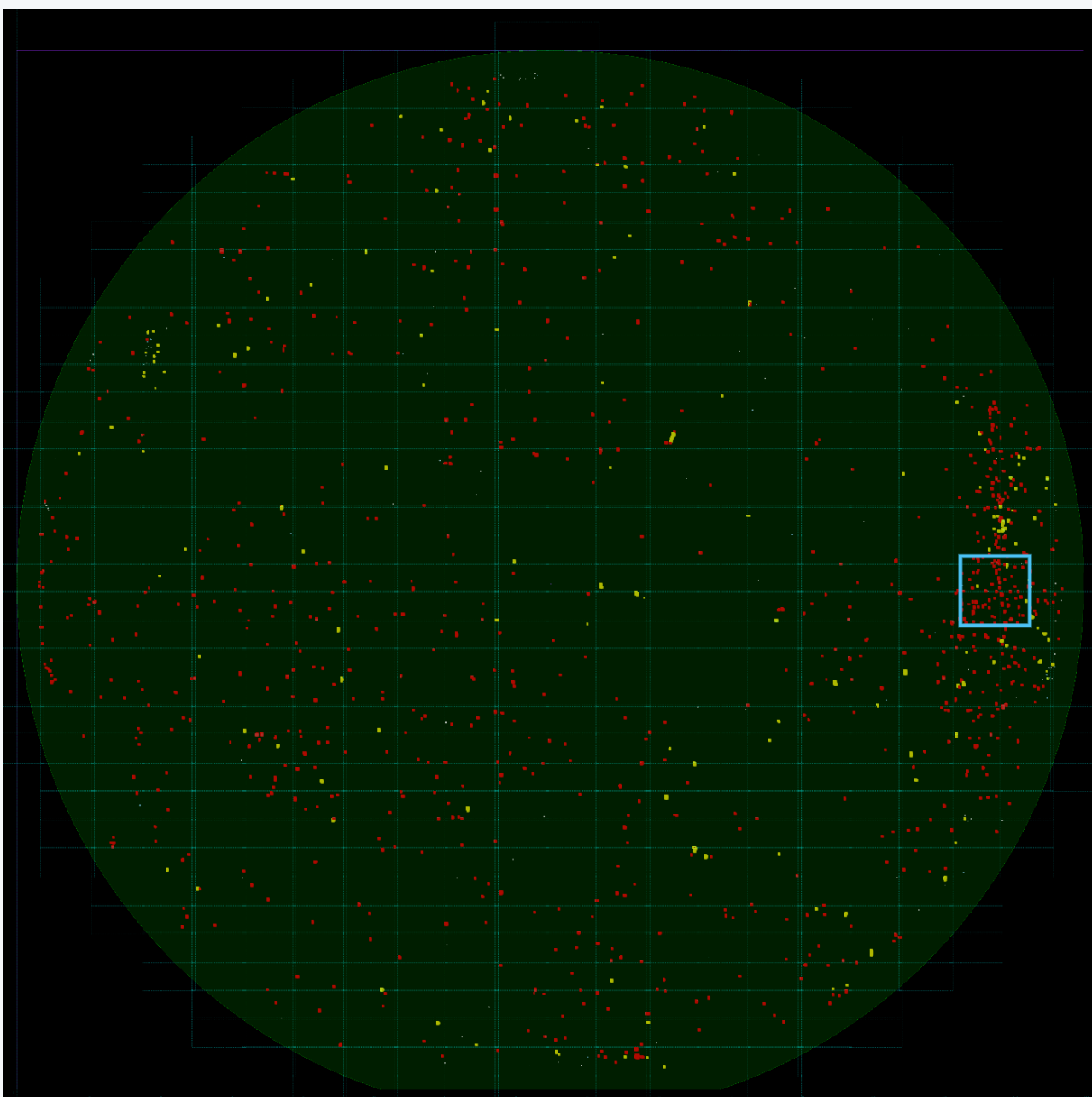
MEASUREMENT FLOW



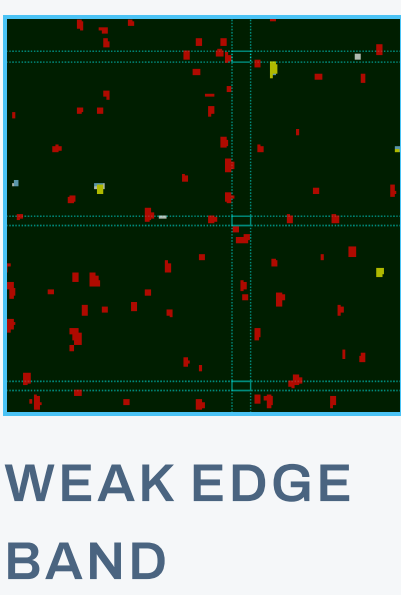
1 PL analysis before irradiation



2 UV stress, stepped intensity

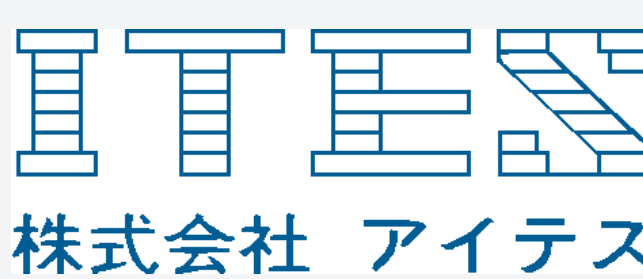


3 Map of where each site expanded



- UV irradiation and PL observation share one stage and one coordinate system (no misalignment from re-mounting)
- KLA-compatible wafer coordinates, so results can be discussed against existing defect inspection data
- Every run carries run / wafer / site / recipe IDs; same field of view compared before and after irradiation

For epi / substrate QA and incoming inspection — know which region of which wafer fails first, before devices are built.



* Example data, development stage. Color ranks are relative within a wafer; wafer-to-wafer comparison uses a fixed reference set / specifications to be finalized in design verification