Wafer Edge Yield Improvement through SOH Mask Tilt Optimization by Edge Insert Ring Height Adjustment

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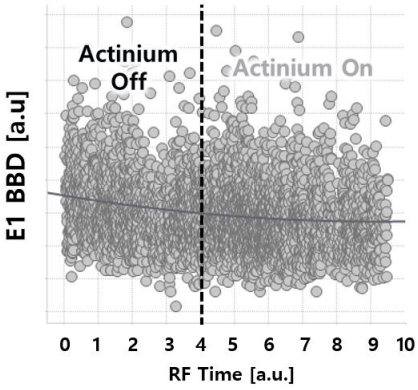

Fig. 1. E1 BBD Degradation with RF Time

$$SCD = |CD\_L - CD\_R|$$

Fig. 2. Concept Diagram of SCD Metrology

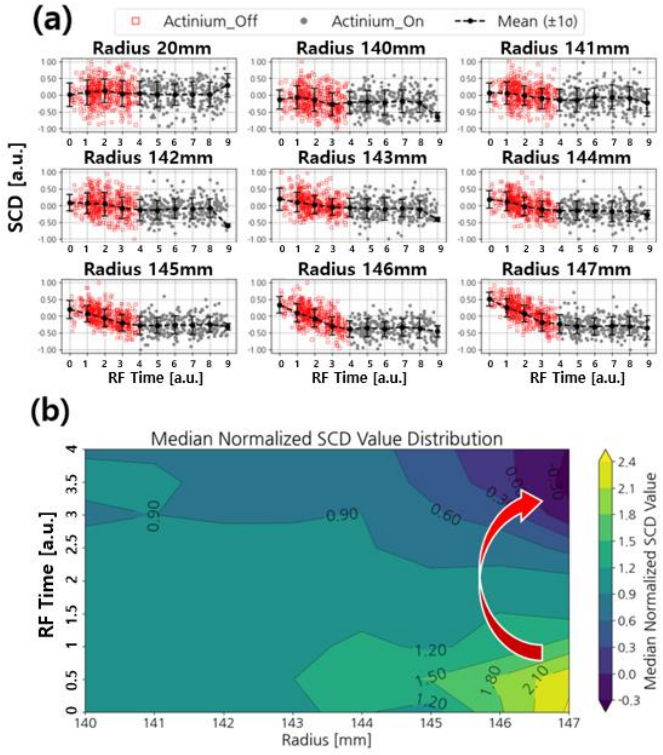

Fig. 3. SCD Analysis by Radius and RF Time
(a) Scatter plot (b) Contour map

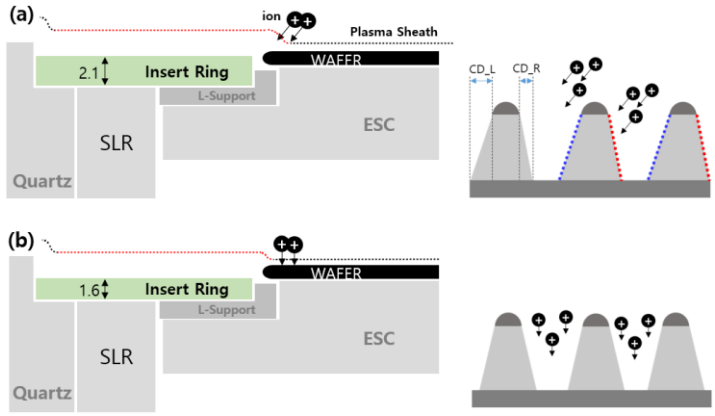

Fig. 4. Concept Diagram of Edge Plasma Sheath and Mask Profile Variation by Edge Insert Ring Height (a) 2.1 (b) 1.6

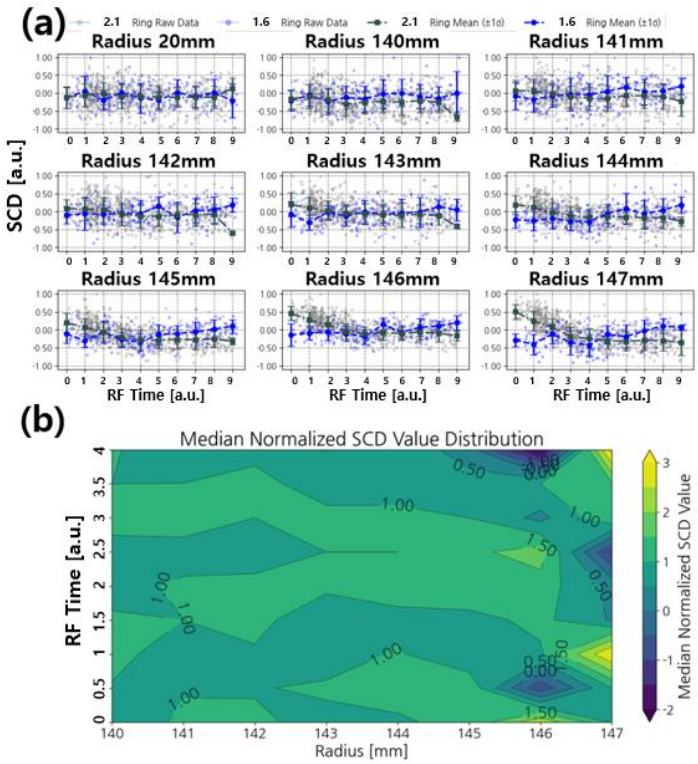

Fig. 5. SCD Analysis by Radius and RF Time vs. Edge Insert Ring Height (a) Scatter plot (b) Contour map

Ring height	E1 BBD by RF Time group				
	0 - 1	1 - 2	2 - 3	3 - 4	0 - 4
2.1	12.98	10.36	8.20	2.26	**8.45**
1.6	4.98	4.90	5.27	4.01	**4.79**

Table 1. E1 BBD at Early RF Time Before/After Evaluation

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