

Minutes from OpenPICs WP 4 meeting 24-07-2017

Present: Longfei, Rob, Rui, Huub

Discussion/action points

Nr.	Description	Responsible
1.	<p>Al-MQW</p> <ul style="list-style-type: none"> The design is delayed by another 2 weeks. It would be helpful to discuss with Peter (Smart) to see if their model can be used to get an initial numbers of the composition and strain. The Al-Q will be calibrated in both Nanolab and Smart reactors. 	<p>Weiming,</p> <p>Longfei</p>
2.	<p>Zn diffusion tests</p> <ul style="list-style-type: none"> SIMS measurement results just arrived. Looks very similar to CV results, except at 475C: max Zn concentration in InP is twice higher for SIMS than CV, indicating the presence of Zn interstitials. More analysis underway. A sample covered with a mask containing various opening transmissions have been fabricated by Longfei. it will be used to obtain the dependence of diffusion rate on mask patterns. Get an empirical model based on more data points with MPW layerstack. 	<p>Rene</p> <p>Longfei</p>
3.	<p>BCB planarization</p> <ul style="list-style-type: none"> Adhesion test of metal on BCB: tape test failed due to the poor adhesion of BCB to native oxide on silicon (less than that of metal to BCB). Next test with BCB on silicon oxide will be done soon. Planarization test has been done on the sample from Smart. Tencor is back from supplier, needs to be set up and calibrated. Lithography parameters have to be re-optimized for BCB. 	<p>Tjibbe</p>
4.	<p>Stepper process</p> <ul style="list-style-type: none"> The stabilization time for Stepper is determined experimentally as 24h. Test with MaN resist: we need some initial results in July, and samples to be measured with X-SEM by an internship student in August. Overlay test using Scanner patterned samples is planned with Jeroen. 	<p>Robert</p>
5.	<p>Etching process</p> <ul style="list-style-type: none"> The new CH₄-H₂ recipe (optimized for ~3 degree side-wall angle in Smart's ICP) will be transferred to Nanolab after a few more fine-tuning. New test for the Cl₂-CH₄-H₂ recipe has been delayed due to the breakdown of Scanner. Longfei will plan new runs with Robert and Jeroen. 	<p>Rui</p> <p>Longfei</p>
6.	<p>Planning</p> <ul style="list-style-type: none"> Upcoming due dates for milestones: M 6.1 (end of August) Process developed for AZ and MaN based lithography. M 4.1 (end of September) BCB insulation and metal plating tested: ready for joint MPW validation A project review meeting (first-year) has been scheduled on 29 August. More details of the agenda will follow. Longfei will leave as of September 1. We are contacting people to take over this part of work. He is writing documents for the hand-over. 	<p>Robert</p> <p>Tjibbe</p> <p>Weiming</p> <p>Longfei</p>

Next meeting: 13:30-15:00, 21-8-2017, Flux 10.177