Minutes from OpenPICs WP 4 meeting 28-11-2016

Present: Longfei (chairing), Weiming, Roel

Agenda points of this meeting

Updates on:

- Work plans and schedules — Longfei, Roel
- Tasks for JTC technicians — Longfei

Discussions on:

- Test structures for the next MPW (15 Dec.) — Longfei, Weiming
- How to make the best use of the Stepper — Longfei, Luc
- Access to the latest version process flow — Longfei, Roel

Discussion/action points

Nr.	Short description	Responsible
1.	**Tasks for JTC technicians** The task arrangement for JTC technicians has been included in the latest version plan (attached). Longfei will invite them to the next meetings.	Longfei
2.	**SSC process schedule** Longfei will check with Marc the schedule of the SSC fabrication within the WIPE project using Smart foundry process. The fabrication results will be useful for the BB development in OpenPICs. ***Update*** *The design of a 4x4 μm^2 SSC will be fabricated in a dedicated run soon (Marc expects it will be done in January 2017).*	Longfei
3.	**Alternative planarization approach** Roel showed an alternative planarization approach based on SiOx (PECVD/HDP deposited, followed by CMP), which is a standard process in CMOS fabrication. This may have advantages over polymer-based process. We will study and understand if this is relevant and practical for this project.	Longfei
4.	**Plan for WP4.2 (DUV process)** Roel will make a plan and target (using the parameter matrix) of this task, before the next meeting. The role and goal of Lionix will be included. ***Update*** *Lionix made a process in Memphis project on 3 inch wafers, although the verification testing should be on a 4 inch wafer.*	Roel
5.	**CD variation control** The approach to have a sub-nanometer CD control from IMEC's paper seems to be not very practical for Smart MPW, as it requires in-line measurement of exposure parameters. We still need to investigate the exact requirement about the precision and practical solutions to achieve that. The wafer-wafer CD variation should be continually monitored both by CD-SEM measurement (for physical linewidth) and grating measurement (for optical central wavelength).	Roel, Weiming

6.	**Test structures design for the next MPW (Dec. 15)** This run will be done on a 2-inch wafer. 3-inch wafer is expected from next March. Roel will confirm again that this wafer is with SI-substrate.	Roel, Weiming
7.	**Stepper process** Smart will get a new stepper appr. Q1 next year. Compared with the one in Nanolab, it may have the same source wavelength (365nm), better resolution, and slightly larger reticle size. The idea is to use scanner for WG definition, and stepper for the reminder processes. AZ and MaN resist are the present choices with the i-line stepper (process to be optimized). The main concern for the current stepper remains in the support and maintenance. (Its value for JTC and the plan for further development is rather clear.) Longfei will discuss more with Huub and Robert about this concern.	Longfei
8.	**Access to the latest version flow** Longfei will discuss with Luc on a practical way to keep access to the latest version of Smart MPW process flow within JTC, which is key to the process development in this project.	Longfei, Luc

Next meeting: December 12th 2016