Name:
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Project Title:
MEMS: Ti-Au getter mechanism investigation

Project Abstract:
MEMS (Micro Electro Mechanical Systems) sensors are resonant structures, and each MEMS of these designs require specific damping. Since MEMS are resonant structures that are highly sensitive to impurities, the manufacturing process requires to ensure the absence of the impurities. In order to create a highly purified chamber in the process, specific getters are used to remove impurities. Currently Titanium is used as a getter while Gold layer protects the Titanium until desired time of activation in the process. To better help the design and process control, Ti-Au getter mechanism is investigated in this project. Meanwhile Titanium’s performance as a getter would be affected by various factors, this project will focus on investigating dependence of Gold layer thickness, Ti/Au ratio, and Ti-Au Surface analysis on sorption capacity.

Project Deliverables:
• Investigation on Ti-Au getter mechanism for the improvement in reference data
• Ti-Au Surface analysis to show purity throughout process
• Dependence of Gold layer thickness and Ti/Au ratio on sorption capacity would be evaluated for the optimization of the gettering process
• Dependence of initial surface on Titanium morphology and grain structure.