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(54) **Title:** NOVEL METHODS FOR GAS PHASE SELECTIVE ETCHING OF SILICON-GERMANIUM LAYERS

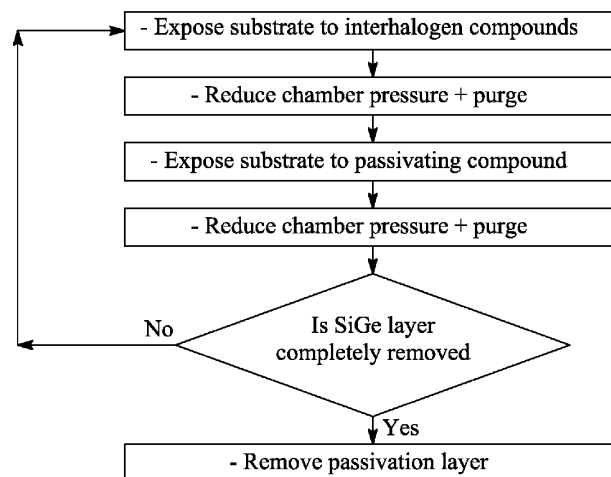


FIG. 1

(57) **Abstract:** Methods for selectively etching SiGe relative to Si are provided. Some of the methods incorporate formation of a passivation layer on a surface of the Si layer to enhance SiGe etchant selectivity and the use of interhalogen gases that preferentially etch the SiGe as opposed to the Si in the presence of the passivation layer. The methods can occur in a cyclic manner until the desired thickness of the SiGe layer is obtained.

[Continued on next page]

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- *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))*

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