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(54) **Title:** QUANTITATIVE MEASUREMENT OF GAS PHASE PROCESS INTERMEDIATES USING RAMAN SPECTROSCOPY

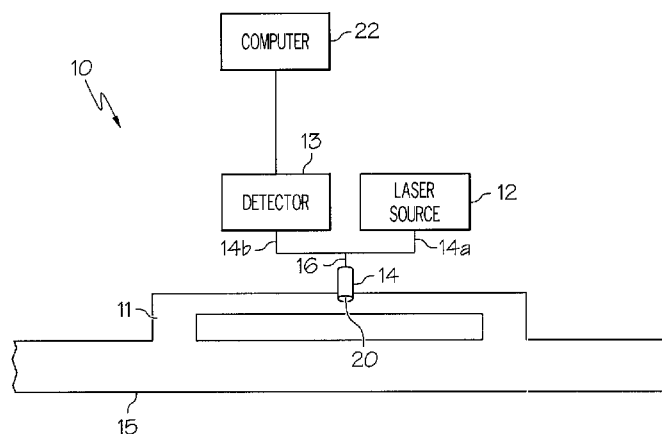


FIG. 1

(57) **Abstract:** A method for quantitatively monitoring gas phase materials in a chemical process is provided and includes, providing a gaseous feed stream containing one or more reactant gases of interest; exposing the gaseous feed stream to coherent radiation from a Raman spectroscopic device; acquiring a Raman spectroscopic signal from each of the gaseous components in the feed stream; analyzing the spectroscopic signal to determine the presence and concentration of each of the gaseous components; and displaying the results of the analysis. In one embodiment, the method is useful for quantitatively monitoring gas phase materials in a process for making high purity silicon.



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