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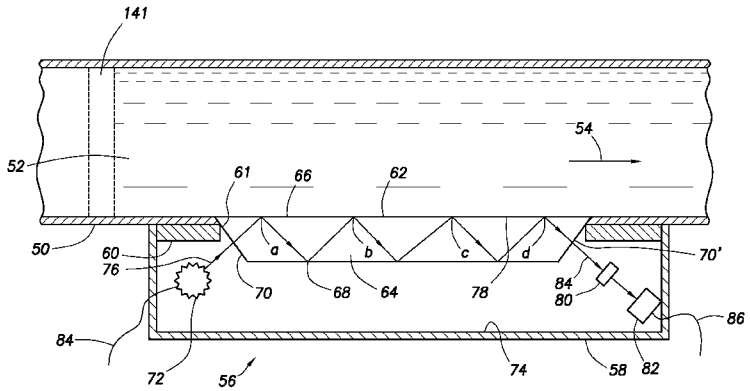


FIG.3

(57) Abstract: A method is presented for analyzing a multiphase fluid flowing through a tubular. A sample fluid flow of multiphase fluid (a mixture of some combination of gas, liquid and solid) is separated from a primary tubular, such as with a probe which traverses the tubular. At least one property of the multiphase fluid is determined using at least one multivariate optical element (MOE) calculating device. Measured properties include the presence, proportional amount, mass or volumetric flow rate, and other data related to a constituent of the fluid, such as CO_2, H_2S, water, inorganic and organic gases and liquids, or group of constituents of the fluid, such as SARA, C1-C4 hydrocarbons, etc. The multiphase fluid is preferably mixed prior to analysis. Additional data can be gathered and used to calculate derivative information, such as mass and volumetric flow rates of constituents in the tubular, etc.

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