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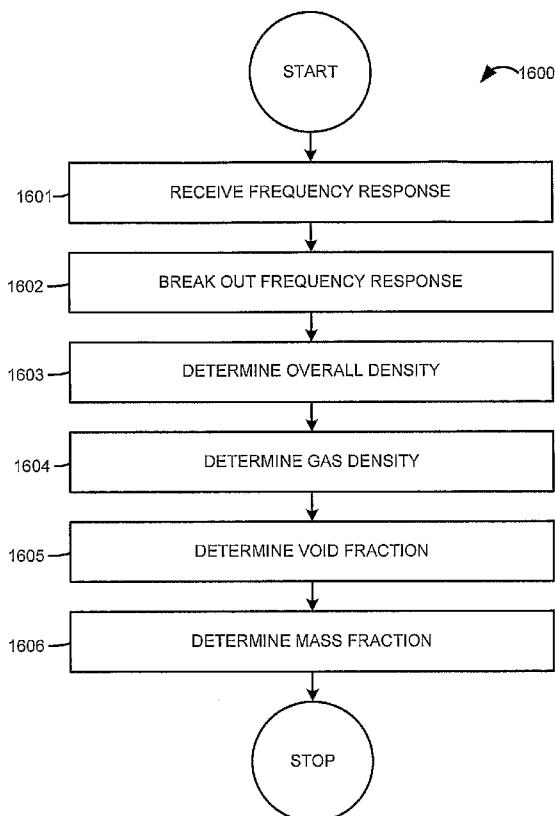
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(54) Title: METER ELECTRONICS AND METHODS FOR RAPIDLY DETERMINING A MASS FRACTION OF A MULTI-PHASE FROM A CORIOLIS FLOW METER SIGNAL



(57) Abstract: Meter electronics (20) for determining a mass fraction of flow components in a flow material flowing is provided according to an embodiment of the invention. The meter electronics (20) include an interface (201) for receiving a frequency response of the flow material and a processing system (203). The processing system (203) receives the frequency response from the interface (201) and breaks out the frequency response into at least a gas frequency component and a fluid frequency component. The processing system (203) determines an overall density from the frequency response and determines a gas density from the gas frequency component. The processing system (203) determines the void fraction of gas from the frequency response and one or more of the gas frequency component and the fluid frequency component. The processing system (203) determines the mass fraction from the void fraction of gas multiplied by a ratio of the gas density divided by the overall density.

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