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(54) Title: METHOD AND SYSTEM FOR MULTI-PHASE FLOW MEASUREMENT

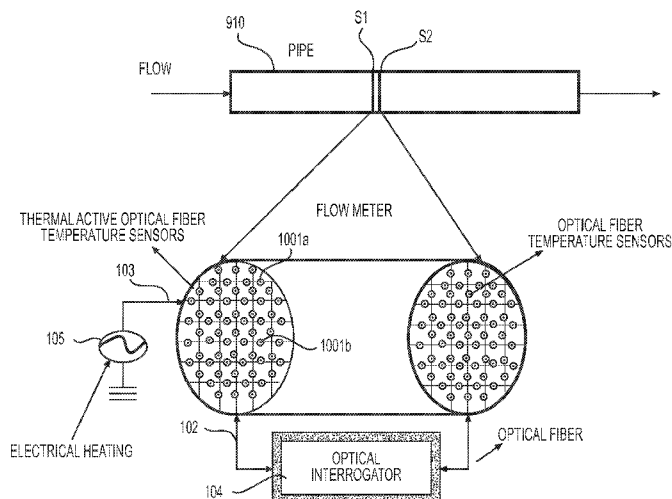


FIG. 10

(57) Abstract: Systems and methods for detecting a condition of multi-phase flow through a component with a first sensing cable having a first sensor location and aligned with a heating element and a second sensing cable having a second sensing location a predetermined distance from the first sensing location. A heat pulse is propagated through the heating element. A first temperature profile at the first sensing location and a second temperature profile at the second sensing location, each corresponding to the heat pulse, are measured over time. A flow velocity is determined by correlating the first temperature profile with the second temperature profile. A condition of flow of the media is detected by determining a phase of at least one medium exposed to the sensing cable at the first sensing location based on the first temperature profile and the determined flow velocity.