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Novel instrumentation for online monitoring of stationary beds and their height for settling slurries

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ABSTRACT:

Novel instrumentation has been developed to detect stationary bed conditions for settling slurries by using externally-mounted sensor heads with a heater and a temperature sensor. These heads are configured in such a way that suitable data are obtained online. Additional sensor heads can be mounted along the circumference of the pipe to detect the actual height of the stationary bed, at pre-determined levels. The embedded software in the Settled Bed Detector (SBD) provides unambiguous outputs for full flow, stationary bed, or bed heights at predefined levels, i.e. 5%, 10% or 15% of the internal pipe diameter. The knowledge about the existence and the vertical extent of the stationary bed and its longevity can reduce the risk of pipeline blockages as part of an optimised mineral process control strategy