

Applications

- Measurement of streaming potentials for polymer coatings and film
- New field for surface characterization of adsorption phenomena
- Can be applied to both chemical sensors and biosensors

Advantages

- Improves accuracy when measuring streaming potential of surfaces
- No need for calibration or restoration of electrodes
- Eliminates voltage drift

Inventors

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Market Need

The measurement of zeta potentials is a common method that allows surface characterization at a solid/liquid interface. Not only is this method beneficial in measuring surface charge within a chemical solution, but also useful in determining biological components within physiological fluids. Current devices that utilize zeta potential measurements lack the ability to accurately and precisely analyze a solution since the solution is measured separately from the control. Since there is variability when measuring the solution and control sequentially, there exists a need to allow parallel measurements.

Technology Summary

This technology is a novel device that allows parallel measurements, thereby improving both accuracy and precision significantly. This device utilizes a dual detection system allowing two streams to be measured at once. With this dual channel system, there is a uniform clamping force throughout both channels allowing both improvement in the device's operation and accuracy in the measurement. Another improvement is that this device allows for real-time capture of zeta potential measurements which is beneficial during patient monitoring and chemical analysis. This technology also uses platinum electrodes in order to reduce the need for calibration or restoration, as well as utilizing a pulsatile streaming potential to eliminate any voltage drift that could occur from using platinum electrodes.

Technology Status

This technology has been prototyped.

Patent Pending: U.S. and Foreign rights available.

This technology is available for licensing to industry for further development and commercialization.