signo Hochschulen
Schutz von Ideen für die gewerbliche Nutzung

Pooling Intellectual Property Efficiently PIPE

Sensors for the Environmental Technology

These technology offers originate from the different partners of the project PIPE. If you are interested in one or more of these offers, please contact the responsible contact named below. We are looking forward to providing you more detailed information.

Cascade impactor for the determination of fine particulate matter pollution

This new invention relates to a real-time cascade impactor for a rapid, highly sensitive, gravimetric determination of fine particulate matter pollution. The cascade impactor allows fractionations in up to eight levels and the determination of particles with diameters of less than 100nm to about 10µm. The impactor essentially consists of an impact plate and a nozzle for classification, which is directed to the impact plate. The arrangement allows the collecting of particles belonging to a specific particle class. The mass change of the impact plate due to the trapped particles can be measured by using a quartz crystal.

Gas sensor for determining harmful gases in indoor and outdoor air

This gas sensor and the corresponding method can be used for a simple and affordable integrative harmful gas provision in the indoor and outdoor air, e.g. from museums, archives, libraries.
The sensor consists of a layer of polymeric material into which an indicator substance is incorporated.

Sensor for on-site provision of harmful gases

This optical harmful gas measuring device provides a simple and inexpensive method for on-site analysis of harmful gases. It essentially consists of a pump or a suction unit which diverts harmful gases through a detector unit. There the absorption change of the indicator as a function of time is measured. The apparatus described provides an alternative to conventional test pipes for gases.

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Precipitation sensor

This precipitation sensor allows an automatic detection of hail precipitation, the characterization of individual hailstones in terms of their size or their damage potential and the time-resolved registration of hail events. For that purpose, oscillations generated by precipitation particles hitting an impact plate, are sent to a converter. Therefore the sensor can help to protect all surfaces which are exposed to hail.

Fog sensor

This sensor allows an automatic distinction between types of fog (droplets, ice particle, haze) as well as a determination of visibility in fog. For this purpose the ratio between the scattered light intensity at an obtuse angle and at an acute angle of a light scattering is determined with the help of a multiple changing light method, for determining the type of fog.
This sensor is applicable in traffic systems and weather stations, for example.

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