



SEWING

System for European
Water Monitoring

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CHEMFET

Chemfet - Chemically Modified Field Effect Transistor.

Chemfets are microdevices that connect the chemical and electrical domains (i.e. transduction of the chemical information into electric signal). The construction of chemical sensors requires the integration of a sensing receptor and a transducing semiconductor element into a defined chemical system. Chemfet consists then of the chemically sensitive part (i. e. ion - selective membranes) and transducing part. FETs are very convenient as the transducers because they can be made with current planar IC technology and have the advantage of a fast response time.

In the CHEMFET's case, the gate metal electrode of the MOSFET is replaced by an electrolyte solution (which is contacted by reference electrode), ion-selective membrane, and hydrogel.

Electric current (I_d) of the transducer (semiconductor part of the sensor) depends on the gate potential which in CHEMFET's case is modified by the potential drop on the ion-selective membrane - solution interface. flows from the source to the drain through the channel.

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the latest technology
for water monitoring.*

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