

GRØN DYST Abstract Guidelines for Authors

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ABSTRACT

The project proposed aims at investigation a novel electrode material, nanoporous gold (np-Au) for electrochemical detection systems, such as detection of heavy metal ions in the ground water. Np-Au has many desired properties for microelectrodes, such as large surface area/volume ratio, corrosion resistance, and high electrical conductivity. Furthermore, it could be possible to fabricate the structures (electrodes) by the metallizing technology in the cleanroom easily.

Electrochemical methods are used to determine the impedance difference between nanoporous gold and pure gold. The impedance for microelectrodes plays an important role for obtaining high signal to noise ratio, where a low impedance of the electrode is preferable.

Microelectrodes with different pore sizes and etching time were used for electrochemical measurements. The change in impedance is noted, in the search for optimal properties for the microelectrode.