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Poster Abstract:

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Porous TiN coatings for improved electrode performance

TiN coatings are used in a variety of applications from solving tribological problems for cutting tools to optimizing the electrical performance of e.g. pacemaker electrodes. The biocompatibility of the material and the fact that it is possible to tailor the film properties make the coating suitable for electrodes interacting with the human body.

The aim of the study is to develop TiN coatings with state-of-the-art performance for treatment of urinary incontinence by electrical stimulation of the nervous system. The TiN coatings are synthesized by reactive DC magnetron sputtering using industrial scale deposition equipment.

Preliminary results have shown that optimized porous TiN coated electrodes have significantly improved electrochemical performance as compared to reference electrodes coated with a smooth TiN.