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## Quantum mechanical and acceleration studies of autocatalytic coating process

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**Abstract:** It is perceived on several studies that the rate of electroless nickel without hypophosphite or borohydrides or amine boranes as the reducing agents is below  $15 \mu/\text{hr}$  and so for a feasible industrial needs high speed electroless nickel is a subject of recent study. In this paper, authors have attempted the role of Sulfamethoxazole (SMX) as an accelerator to achieve high plating rate. Experimental results such as anodic, cathodic polarization, A.C impedance and quantum mechanical descriptors had validated that the present accelerator could enhance the rate of electroless nickel deposition.

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