

## Re: Cathodic reaction hydrogen evolution on RDE

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### 6.1.5.4 Effect of Electrode Rotating Speed

For the rotating electrodes, current increases as the electrode rotating speed increases, and the limit current increases linearly with square root of the electrode rotating speed, which agree with theoretical equations. When the ratio of rotating speed to scan rate,  $w/v < 1$ , the shape is peak. When high-speed  $w/v > 103$ , the shape becomes S-shape wave. If you set the rotation speed to 0, the current should become one without rotation.

Please read Electrochemist manual in the web site [www.electrochemist.com](http://www.electrochemist.com) for detail.

"Dr noone" <[writer9000@xxxxxxxxxx](mailto:writer9000@xxxxxxxxxx)> wrote in message [news:cjh0a2tpob8g7h5fd0libij9clgbr8v2c@xxxxxxxxxx](mailto:news:cjh0a2tpob8g7h5fd0libij9clgbr8v2c@xxxxxxxxxx)

Can you tell me if changes in electrode rotation rate have any influence on cathodic reaction – evolution of hydrogen? Is it possible that with increasing the rotation rate of disc electrode cathodic current density become higher? The working electrode is Al disc electrode in deaerated neutral NaCl medium, where cathodic reaction is hydrogen evolution which takes place slowly by dissociations of water molecules. Will the situation be different if the solution is acidic, like HCl instead of neutral NaCl solution? Can you also tell me where I can find explanations in theory about my questions (some easily accessible book, scientific papers, or free web site)?