NASA
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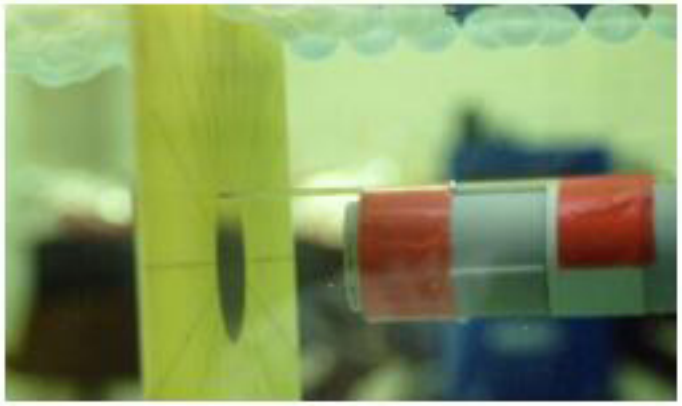
Success
Stories

Acoustically Enhanced Electroplating Process

Alchemitron Corporation

TECHNOLOGY

The acoustically enhanced electroplating process is a system and method for selective plating which directs beams of high intensity acoustic waves to create non-linear effects that alter and improve the plating process.



Acoustically Enhanced Electroplating

COMMERCIAL APPLICATION

- Electroplating of electronic circuit boards.
- Specialty plating with precious metals.
- Plating of 3 dimensional forms.

SOCIAL / ECONOMIC BENEFIT

- Increases the control of the material deposition in plating and the electroplating processes giving the user new ability to manipulate the plating process and do things that were not possible with conventional techniques
- May act through intervening barriers to plate inside of parts.
- Decreases cost by limiting the amount of excess material applied.
- Reduces or eliminates the labor and material cost of masks.
- Reduces the creation, handling, and disposal of toxic waste.
- Programmable and scaled for different industrial applications.

NASA APPLICATIONS

- Similar techniques are being developed for applications on Space Station. The primary benefit is the control of liquids that are free floating inside tanks in the zero gravity of space.
- Space Experiments: Agitation of solids in liquids without mechanical devices or plumbing.
- Space Propulsion: Control of liquids and bubbles in propellant tanks by remote control without mechanical systems.

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