

Laser Processing of Printed Transparent Conductor Made of Metal Oxide and Silver Nanowires Film

A novel laser heating process creates superior, cost-effective transparent conducting films from silver nanowire composites on flexible substrates for displays and touch screens.

Transparent conducting film (TCF) is a critical component in displays including touch panel displays. Currently, there has been considerable research in using a printable technology for indium tin oxide (ITO) or aluminum-doped zinc oxide (AZO) films, but low sheet resistance has been unattainable.

Researchers at Purdue University have developed a laser heating of composite TCF composed of silver nanowires (AgNws). This technology will form a high quality TCF on a flexible substrate without melting the substrate at high temperatures. It will target laser assisted printing of a new nanocomposite material for TCF, resulting in a higher quality than current technologies in both properties and cost.

Advantages:

- Abundant materials
- Superior performance
- Low cost
- Robust reliability and lifetime

Potential Applications:

- Touch screens
- Displays
- Laser Assisted Printing

Technology ID

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Category

Semiconductors/Devices &
Components
Materials Science &
Nanotechnology/Nanomaterials
& Nanostructures
Materials Science &
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Functional Materials

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