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A Molecular Electronic Device

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Intellectual Property Status

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Background

There has been a recent surge of interest in molecular electronics and organic electronic materials. This is demonstrated by potentially useful electronic devices. Examples of such devices are programmable logic elements, and molecules with negative differential resistance. Despite this progress there are certain fundamental questions which remain unanswered.

Invention Description

Researchers at Arizona State University have developed a novel technique to develop and fabricate a molecular electronic device which can eliminate the problem of highly variable nature of the electrical contact between the molecule and the contacting metal for example, wide current variations between similar molecules. The researchers have developed different approaches which can be applied to different situations to perform the same task.

Potential Applications

- **Solid state Nano-electronics**
- **Organic Polymers**
- **Semiconductor**
- **Nanotechnology in general**

Benefits and Advantages

- **Current control**
- **Variation free electrical contact**
- **Different methods of fabrication of the device**