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Evanston, IL, United States (UPI) -- U.S. scientists have demonstrated a carbon nanotube-based nanoelectromechanical switch exhibiting bistability based on current tunneling.

The Northwestern University researchers said carbon nanotubes -- a type of one-dimensional structure with high-aspect ratio -- have emerged as a promising material because of their many impressive mechanical, electrical and chemical properties.

Now the Northwestern University scientists have demonstrated a device that could help advance technological developments in memory chips and electronic sensing devices.

'We believe the unique characteristics of this nano device will likely lead to many high-impact applications in the field of nanoelectronics and nanosensors,' said Horacio Espinosa, professor of mechanical engineering who co-wrote the study with Changhong Ke, a former graduate student.

The research is published online in the scientific journal Small.

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