Review of: "The nucleus rotates around it, it also has a rotational motion around itself."

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> *The nucleus rotates around it; it also has a rotational motion around itself. This type of rotation in the structure of nanowires is called electron nanospin.*

The advantages of using nanoporous aluminum oxide as a template for the production of nanowires, compared to other methods, include the high order of pores, the alignment of pores, and the controllability of the ratio. The length is equal to the diameter, and the high density of the porosity.

> *The amount of order and the dimensions of the nanowires produced using this set of templates are determined and controlled by the initial conditions of the anodizing process.*

Due to chemical stability, high saturation magnetization, high axial anisotropy, high temperature stability, chemical stability, and high corrosion resistance, as well as high special resistance of nano-electricity, they have good electromagnetic and nano-magneto-optic properties.

Focused ion beam nanolithography resources were mainly based on nanotechnology due to its stability and ease of use ; focused ion beam scanning on the surface of a material removes materials with the desired pattern and with high nanoscale accuracy, and for The conceptual design of focused ion beam nanolithography uses and integrates similar components: sources, extraction and acceleration, optics, scan coils, sample stage, electron detectors, etc. Interestingly, the focused ion beam nanolithography equipment provides the user with all imaging, nanostructural, and analysis capabilities of both technologies in a single platform.

> *For this reason, focused ion beam technology has become very popular for performing special tasks such as cross-sectional imaging, preparation of nanodevice layers, nanopatterning of materials, and circuit editing. Focused ion beam nanolithography is capable of directly removing materials without much use of resistors. As a direct nanolithography method, the number of processing steps is minimized compared to other methods.*

Focused ion beam nanolithography , as a sequential nanolithography technique, is inherently slow and its

throughput is much lower than that of other techniques, and Ga + -based liquid metal ion sources have become the most widespread type of source in focused ion beam nanolithography equipment. However, in recent years, new developments in sources such as gas field ion sources , plasma sources , and metal alloy sources have been the next step in terms of resolution or power. Since the ion-matter interaction is stronger than the electron-matter interaction, it can create harmful effects on the remaining material and change its physical and chemical properties. Important but key applications for focused ion beam nanolithography technology have been found in the semiconductor industry, in nanotechnology, and in materials science. And the deposition caused by focused ion beam nanolithography requires a gas injection system to produce a local deposition from a precursor material that is delivered in the form of gas, with precursor separation created by appropriate radiation in nanoelectrical devices.

> ***The main advantage of this technique is the selective growth of a material in the region of interest in one step. Due to the high resolution of the focused ion beam nanolithography technique , deposits can be grown with high lateral resolution , but with much less damage caused to the substrate due to the low linear motion of electrons compared to ions. In contrast, the growth rate and metal content of the deposits are generally used for focused ion beam nanolithography.***

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