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English translation

Researchers in Singapore develop new technology to manufacture custom 3D printed metal parts

According to phys.org on 30 Oct, researchers at Nanyang Technological University in Singapore have developed a new technology to manufacture custom 3D printed metal parts that contain different properties in the same part. Unlike traditional metal fabrication processes, this technology does not require additional raw materials, mechanical treatment, or machining processes to achieve different properties of the metal, thereby reducing manufacturing costs. Combining the principles of materials science and mechanical engineering, the researchers used 3D printing technology and adjusted the printing parameters to produce 3D printed metals with different microstructures, thereby altering their properties. The researchers found that 3D printed metals with both strong and weak zones are slightly stronger than metals with only strong zones, so the new technology has the potential to make materials that are stronger than composites. In addition, this technology can also produce 3D printed metals with different functional properties, such as printing metal parts such that the section submerged in seawater is more corrosion resistant than sections above water. The research results were published in the journal Nature Communications.

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