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摘要: Metamaterials are artificial media structured on a size scale smaller than wavelength of external stimuli, and they can exhibit a strong localization and enhancement of fields, which may provide novel tools to significantly enhance the sensitivity and resolution of sensors, and open new degrees of freedom in sensing design aspect. This paper mainly presents the recent progress concerning metamaterials-based sensing, and detailedly reviews the principle, detecting process and sensitivity of three distinct types of sensors based on metamaterials, as well as their challenges and prospects. Moreover, the design guidelines for each sensor and its performance are compared and summarized.
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