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(19) **United States**(12) **Patent Application Publication**  
Wang et al.(10) **Pub. No.: US 2024/0244975 A1**(43) **Pub. Date: Jul. 18, 2024**(54) **AUGMENTED LOGARITHMIC SPIRAL  
ANTENNA STRUCTURE APPLIED TO  
ELECTROMAGNETIC WAVE ENERGY  
ABSORBER, THERMOELECTRIC ENERGY  
HARVESTER, PHOTOCONDUCTIVE  
ANTENNA, ARRAY ANTENNA AND  
RECTENNA**(52) **U.S. Cl.**  
CPC ..... *H10N 10/17* (2023.02); *H01Q 1/36*  
(2013.01)(57) **ABSTRACT**(71) Applicant: **NATIONAL TSING HUA  
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An augmented logarithmic spiral antenna structure includes a first conductive layer, a dielectric layer and a second conductive layer. The first conductive layer includes a first spiral arm and a plurality of second spiral arms. The first spiral arm includes a first initial radius. The second spiral arms are disposed around and connected to the first spiral arm, and each of the second spiral arms includes a second initial radius. The dielectric layer has a top surface and a bottom surface, and the top surface is connected to the first conductive layer. The second conductive layer is connected to the bottom surface. A plurality of the second initial radii of the second spiral arms are different from each other, and different from the first initial radius.

