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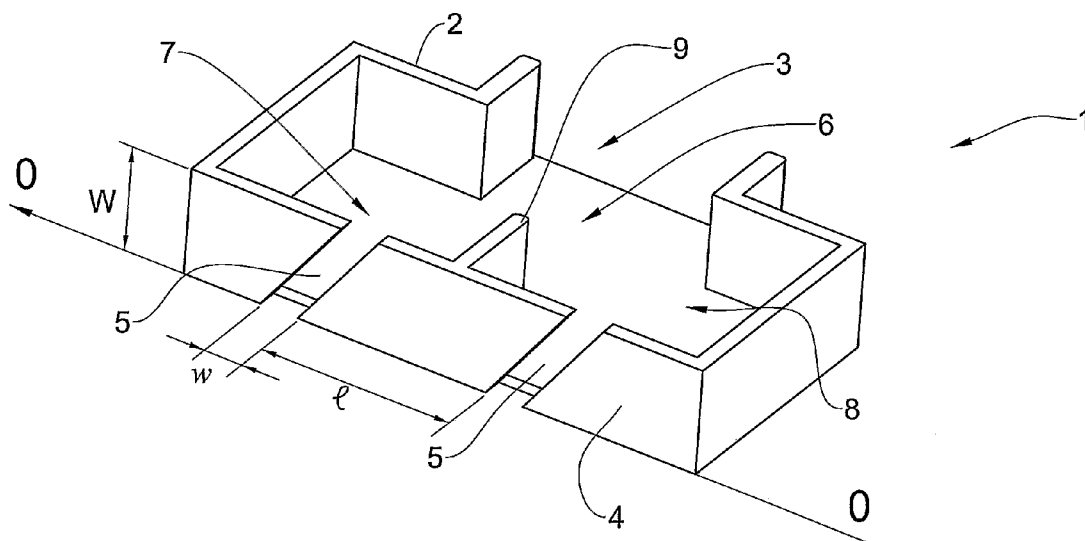
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(54) Title: WAVEGUIDE SLOT ANTENNA ELEMENT AND ARRAYS FORMED THEREOF



(57) Abstract: A waveguide slot antenna element, waveguide slot antenna arrays comprising a plurality of the waveguide slot antenna elements and a method of operating the waveguide slot antenna arrays are described. The waveguide slot antenna element includes a non-radiating side including a feeding port, a radiating side disposed opposite to the non-radiating side and including at least one pair of radiating slots, and an energy splitter arrangement accommodated between the radiating and non-radiating sides along a path of an ingress electromagnetic field propagating from the feeding port towards said at least one pair of radiating slots. The method of operating the waveguide slot antenna arrays includes supplying electromagnetic energy of a predetermined frequency to the feeding ports of a first pair of slot antenna linear arrays and a second pair of slot antenna linear arrays independently of each other, thereby to generate an electromagnetic field of desired polarization.

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