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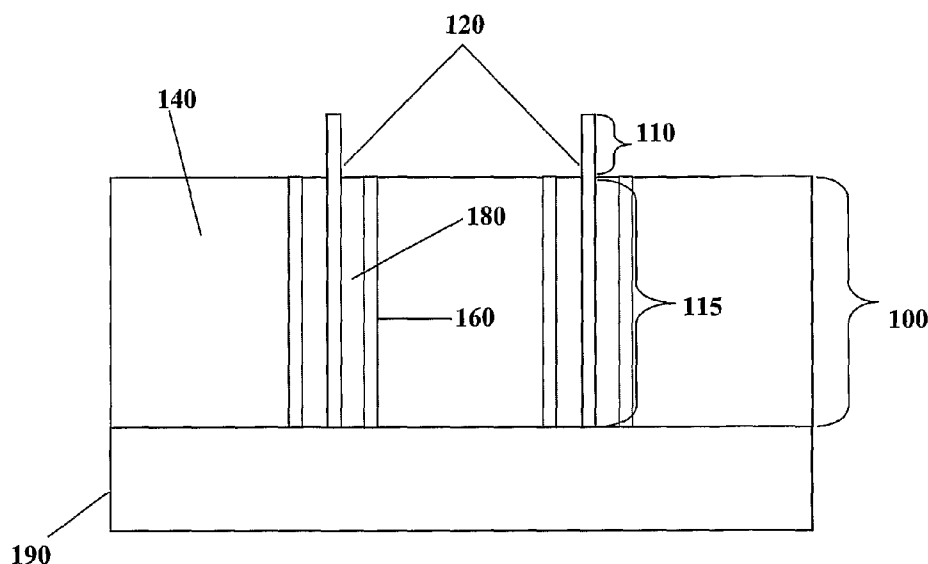
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(54) Title: APPARATUS AND METHODS FOR SOLAR ENERGY CONVERSION USING NANOSCALE COMETAL STRUCTURES



(57) Abstract: An apparatus and methods for solar conversion using nanoscale cometal structures are disclosed herein. The cometal structures may be coaxial and coplanar. A nanoscale optics apparatus (100) for use as a solar cell comprises a plurality of nanoscale cometal structures each including a photovoltaic material (180) located between a first electrical conductor (120) and a second electrical conductor (160). A method of fabricating solar cells comprises preparing a plurality of nanoscale planar structures; coating a plurality of planar surfaces of the plurality of planar structures with a photovoltaic semiconductor (180) while leaving space between the plurality of planar surfaces; and coating the photovoltaic semiconductor (180) with an outer electrical conductor layer, wherein a portion of the outer electrical conductor layer is located between the planar structures to form coplanar structures.

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