PATENT CLAIMS

1. A photovoltaic element including a resonator surrounded by a dielectric and arranged on a semiconductor structure (**5**), **characterised in that** the semiconductor structure (**5**) is formed by the region without electromagnetic damping (**5a**), whose upper plane constitutes the incidence plane (**3**), and the region with electromagnetic damping (**5b**), both the regions are bounded by virtual boundaries (**6**) of variations in material properties, while at least one 2D-3D resonator (**4**) is arranged in the semiconductor structure (**5**), where its 2-D part is arranged in the incidence plane (**3**) and its 3-D part placed in the dielectric (**10**), and a relative electrode (**11**) borders on the region with electromagnetic damping (**5b**).

2. The photovoltaic element including a resonator according to claim 1, **characterised in that** the 2D-3D resonator (**4**) is formed by two parts, of which the first 2D part is constituted by a transformation element (**8**) arranged on the plane of incidence (**3**) and consisting of a pair of electrodes in the form of coupled conductors, while the second 3D part is constituted by a dielectric (**10**) and a reflector (**7**), which is arranged both inside the region without electromagnetic damping (**5a**) and inside the region with electromagnetic damping (**5b**), while the transformation component (**8**) is arranged on the dielectric (**10**), with which the reflector (**7**) is matched.

3. The photovoltaic element including a resonator according to claim 2, **characterised in that** the reflector (**7**) is, in relation to the dielectric (**10**), arranged orthogonally toward the incidence plane (**3**).

4. The photovoltaic element including a resonator according to claims 1 to 3, **characterised in** that the region with electromagnetic damping (**5b**), in contrast with the region without electromagnetic damping (**5a**), shows increasing gama conductivity [S/m] in the direction of the relative electrode (**11**).