Title (en)

ANTENNA RADIATION HEATER FOR HEATING A MATERIAL BY USING RESONANCE

Title (de)

ANTENNENSTRAHLUNGS-HEIZUNG ZUR ERWÄRMUNG EINER MATERIE MITTELS RESONANZ

Title (fr)

DISPOSITIF DE CHAUFFAGE A RAYONNEMENT D'ANTENNE DESTINE A CHAUFFER UNE MATIERE PAR RESONANCE

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Application

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Abstract (en)

[origin: WO0210650A1] The invention relates to an antenna radiation heater (2) for heating a material by using resonance. Said heater comprises a number of planar antenna elements (3) each consisting of a supporting planar material (11) and of a radiation coating (10) applied thereto. The radiation coating is delimited by two interspaced parallel electrical conductors (14, 15) having electrical contact and being provided as antenna delimiters, and electromagnetic high-frequency radiation can be emitted by said radiation coating. The inventive antenna radiation heater (2) additionally comprises a harmonic generator, which is coupled to both electrical conductors (14, 15) of a planar antenna element (3) and which is provided for exciting the radiation coating (10) in order to radiate a vibrational spectrum in the range of the molecular natural frequencies of the material to be heated. According to the invention, the radiation coating (10) is applied to one side of the supporting planar material (11) and forms a front side of the element that faces the material to be heated. In addition, a layer (12), which protects against accidental contact, is applied to the radiation coating (10). Said layer (12) electrically insulates the radiation coating (10) against contact, and enables the radiation of the vibrational spectrum without or at least only with slight attenuation.

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