

Title (en)

Apparatus and method for heating objects with microwaves

Title (de)

Vorrichtung und Verfahren zum Erhitzen von Gegenständen mittels Mikrowellen

Title (fr)

Dispositif et procédé pour chauffer des objets par micro-ondes

Publication

EP 0792085 B1 20050323 (EN)

Application

EP 97300635 A 19970131

Priority

- EP 97300635 A 19970131
- EP 96301230 A 19960223

Abstract (en)

[origin: EP0792085A2] An apparatus and method for heating planar and non-planar objects using microwaves, the method comprising: providing at least two beams of travelling microwaves from a coherent microwave source (4); directing each beam of travelling microwaves into separate arms (8,10) of a waveguide (6); isolating the beam of travelling microwaves in each arm using a microwave circulator (12); forming a standing wave from the travelling waves at the working area (14) where the arms meet; and varying the phase of at least one beam of travelling microwaves by altering the path length of the microwaves in the waveguide to move the standing wave. An object passing through the working area is irradiated by the microwaves, thereby generating complex interference patterns in the object. Controlling changes to the phases of the incident microwaves changes and controls the time-averaged superposition of the interference patterns, facilitating effective volumetric heating of the object. <IMAGE>

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CPC (source: EP)

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Cited by

CN113303901A; EP1311791A4; ES2489292A1; CN113243988A; EP0991136A1; SG82644A1; US2010163552A1; US8809753B2; US2021206030A1; US6211503B1; WO2020002497A1; TWI786015B

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