

The invention relates to material heat treatment using energy of high-frequency field and can be used in pasteurization, sterilization, drying, heating of different materials. A method for material heat using energy of high-frequency field comprises excitation of an oscillatory contour mashed with a generator, in a capacitor branch of which a capacitor applicator with materials heated by high-frequency field of specify power is located, and measurement of a signal reflected from oscillatory contour. A high-frequency signal is supplied to the oscillatory contour along a directional coupler; the directional coupler is matched with the contour. A ratio of signal amplitude of impinging and reflected waves of the directional coupler is measured. A difference between signal phases of impinging and reflected waves of the directional coupler is measured. Basing on measurement, frequency of high-frequency generator is readjusted until a signal phase shift of impinging and reflected waves will be equal to zero. Readjustment of turn-on ratio is performed until the minimal ratio of signal amplitude of impinging and reflected waves will be obtained. The technical result is improving efficiency coefficient of high-frequency heat.