4.5.33. GRAPHIC PRESENTATION ACOUSTIC AND ELECTROMAGNETIC FIELDS EXCITING BY ELECTROMAGNETIC – ACOUSTIC (EMA) METHOD

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In report is present data of theoretical study by problems straight and counter EMA – transformation. Principal concern is intently to issues excitations acoustic vibrations and receiving electromagnetic waves, which are generated by acoustic vibrations, if excitations and receiving coils are separation in it construction.

At the basis theoretical research was constructing graphs for flatness, which are perpendicular for flatness off oscillator. As a oscillators are considers two-wire antipodal oscillator and one-wire.

Was consided straight and counter EMA – transformation. Was constructing dependences, which are describes intensity propagation electromagnetic field from oscillators differents typs. Presents distribution electromagnetic field in metal. Was computing intensity acoustic vibrations for materials with differents electrophysical behaviours, is displaing distribution electromagnetic field at the counter EMA – transformation.

Obtained results allows adequately concept about electrophysical processes, which take place in solid, when it expose to influence constant magnetic field and electromagnetic field simultaneously. Moreover investigated excitation electromagnetic field by acoustic vibrations in materials, which expose to influence constant magnetic field.

In report is present description of thickness indicator EMAT-100. In construction transformer of this instrument excitations and receiving coils are separation. At present EMAT-100 are produce serially.