

Method for improving the reliability of detecting signals reflected by nonhomogeneities, including subsurface cracks, belongs to non-destructive testing of asphalt concrete pavement layers during the construction and operation of highways, as well as remote sensing. In this method, road surface is scanned using antenna system consisting of single transmitting antenna that emits electromagnetic field with single linear polarization, and two linearly polarized receiving antennas positioned orthogonally to each other, the directions of polarization of which are oriented relative to the direction of polarization of transmitting antenna at angles of 0° and 90° . Simultaneously, reflected electromagnetic field is recorded, and received electromagnetic field is converted into electrical signal, which is recorded and stored in digital form in computer memory. Then, received signals from two receiving antennas are analyzed using computer software. A conclusion regarding detection of cracks in asphalt concrete pavement, including subsurface cracks, is made provided that signal is present in channel, receiving antenna polarization of which is at a 90° angle to polarization of emitter; if signal is detected in channel where receiving antenna's polarization is at a 0° angle to that of emitter, and no signal is detected in channel where receiving antenna's polarization is at a 90° angle to that of emitter, a conclusion is drawn regarding the homogeneity of road surface in horizontal plane. Technical result: improved reliability in detecting subsurface cracks in asphalt concrete road pavement.