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Lightning Detection Instrument with Computerized Numbering Logger in Southern Iran

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Abstract: The number of lightning flashes occurred above a geographical area is one of the important indices of thunderstorm activity. Electromagnetic waves produced by lightning flashes especially at VLF and LF bands have an opportunity of lightning detection over the horizon due to direct emissive radio wave or reflected propagation due to waveguide property of the earth-ionosphere. In our work, laboratory manufactured instrument is an especial radio receiver which amplifies and detects the very weak voltage inducted on the antenna sourced from the lightning strokes radiation. Its laboratory quality control as well as counting of the first observations has been successfully passed. Unlike those systems which used external power supply to receiver circuits, the instrument directly connected to PC serial common port and easily lightning number logger works. It is considered for covering the area with radius from 40 to 200 km in Southern Iran as point measurement centered in Shiraz. Network of lightning positioning logger would also desire over Iran using passive remote sensing methods that is intrinsically going onwards.