

Title (en)

POSITION LOCATION VIA GEOMETRIC LOCI CONSTRUCTION

Title (de)

POSITIONSFINDUNG ÜBER KONSTRUKTION GEOMETRISCHER ORTE

Title (fr)

LOCALISATION PAR UNE CONSTRUCTION DE LIEUX GEOMETRIQUES (LOCI)

Publication

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Application

EP 05812784 A 20051205

Priority

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Abstract (en)

[origin: WO2006070211A1] The invention falls into the field of wireless communications and electromagnetic waves propagation. More specifically, part of the invention falls into the field of position location, or estimation of the location of a wireless device. The invention solves the problem of categorizing transmitters with contiguous propagation attenuation factors to a wireless device. The invention estimates the values of these factors, and also estimates the position of the wireless device - or "locates" the device. This problem is affronted by proper geometric loci construction. At the same time, an internal criterion is calculated in order to evaluate the results of the location procedure. The invention comes at the desiring results with minimum input: the positions of the transmitters and the Received Signal Strength (R.S.S.) from each transmitter at the position of the wireless device (and also supplemental information, such as the gain of the transmitters' and receiver's antenna etc.). The invention may be employed to any wireless network, since it may be incorporated into existing and inexpensive network equipment. Therefore, the invention may be employed to either new or already existing and running networks. It is especially suited for operation in unknown environments, since topographical maps are not needed. The costly and sometimes impracticable procedure of on-the-field pre-measurements is avoided. Additionally, expensive equipment, such as directional or switched-beam or adaptive antenna arrays, is not required. The invention overcomes most of these problems, which are characteristic of existing location methods, as presented in the "Description" part.

IPC 8 full level

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