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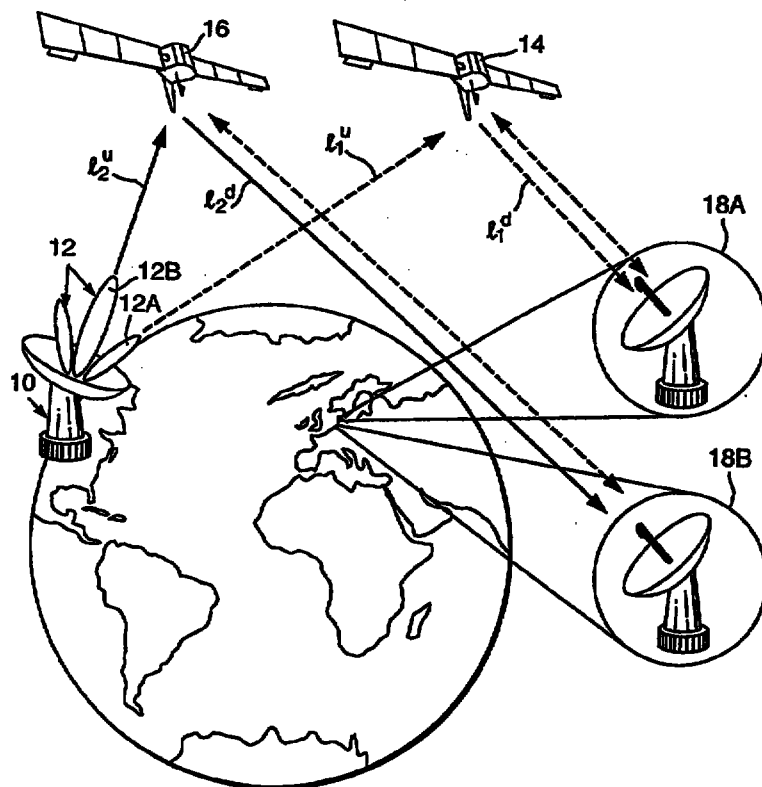
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(54) Title: METHOD AND APPARATUS FOR LOCATING THE SOURCE OF AN UNKNOWN SIGNAL



(57) Abstract: A method of determining the location of an unknown source (10) transmitting a signal to satellite relays (14 and 16) comprises receiving replicas of the signal from the relays at receivers (18). The receivers (18) also transmit and receive reference signals via respective relays (14 and 16). All signals are downconverted, digitised and correlated with one another in pairs using a correlation function including a term which compensates for time varying differential frequency offset (DFO). Compensation for time varying differential time offset or time dilation is achieved by replicating or adding to signal samples and applying phase corrections. This procedure enables a correlation maximum and associated measurement results to be obtained despite the effects of relay satellite motion which mitigate against this. Results are used in a prior art geometrical technique to locate the unknown transmitter.

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