(54) **SYSTEMS AND METHODS FOR LOCATING A SIGNAL SOURCE**

(57) A method of estimating the location of a signal source comprises, by a processing unit:

determining $\Delta\Delta\varphi^{m,n}$ which represents a difference between accumulated phases of signals, S_m and S_n, received by at least one pair of the receivers,

determining a first estimate of the location of said signal source based on position data and $\Delta\Delta\varphi^{m,n}$ of said at least one pair of receivers, said first estimate being associated with an accuracy area,

determining data representative of difference in times of arrival of modulation patterns of the signals S_m, S_n, wherein said data comprise an ambiguity, and

for said at least one pair of receivers, using at least said data representative of difference in times of arrival of the modulation patterns of the signals, $\Delta\Delta\varphi^{m,n}$, and said accuracy area, to obtain second estimates $\hat{e}_{Src}^{k}$ of the source location, at least some of them being located within the accuracy area
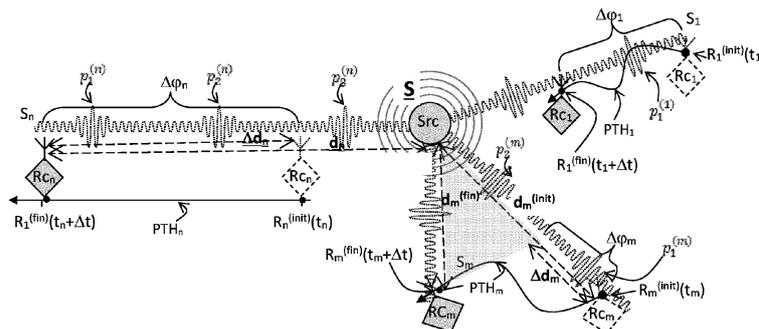
Fig. 1B

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