

ABSTRACT

**RADAR SYSTEM AND METHOD FOR LOCATING AND IDENTIFYING OBJECTS BY THEIR NON-LINEAR ECHO SIGNALS**

The invention relates to a harmonic radar system which comprises: (a) at least two transmitting units for simultaneously, and in synchronization transmitting electromagnetic radiation in distinct frequencies  $f_1, f_2, f_3 \dots$  towards a space of interest; and (b) at least one receiving unit tuned to a frequency of  $nf_1 + mf_2 + qf_3 \dots$ , wherein  $n, m, q \dots$  being integers not equal to zero, for receiving a non-linear response of said radiation from objects located within the said space of interest.

Figure 1