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(22) Date of filing of Application :25/12/2022

(21) Application No.202241075280 A
(43) Publication Date : 30/12/2022

(54) Title of the invention : A SYSTEM FOR COMPOSITE WAVEFORM OF (GAUSSIAN AND RAYLEIGH) DISTRIBUTION FOR NLFM GENERATION AND METHOD THEREOF

(51) International classification :G01S0007521000, G01S0013280000, H04B0015000000, G01S0013340000, G01S0007520000
(86) International Application No :PCT// Filing Date :01/01/1900
(87) International Publication No : NA
(61) Patent of Addition to Application Number :NA Filing Date :NA
(62) Divisional to Application Number :NA Filing Date :NA

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(57) Abstract :
The present invention discloses a system for Composite Waveform of (Gaussian and Rayleigh) Distribution for NLFM Generation. In the present invention, the Composite waveform of (Gaussian and Rayleigh) Probability Distribution Function is brought out. The above two distributions are well known in the area of communications. Present innovation is composite of the above two distributions (waveforms) to have better performance mainly in the field of Radar and Sonar. This distribution function is used in the generation of NLFM (Non-Linear Frequency Modulated) waveform. In the text sometimes waveform is referred as signal. Accompanied Drawing [FIGS. 1-10]

No. of Pages : 18 No. of Claims : 5

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(19) INDIA
(22) Date of filing of Application :25/11/2022

(21) Application No.202241068079 A
(43) Publication Date : 23/12/2022

(54) Title of the invention : Solid-state transformer-based multilevel inverter

(51) International classification :H02M0007487000, H02M0001000000, H02M0007483000, H02J0003380000, H02M0007490000
(86) International Application No :PCT//
Filing Date :01/01/1900
(87) International Publication No : NA
(61) Patent of Addition to Application Number :NA
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(62) Divisional to Application Number :NA
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(57) Abstract :
Solid-state transformer-based multilevel inverter The present invention provides a solid-state transformer-based multilevel inverter. The system comprises three medium-frequency transformers, 12 switches, and a single DC source to produce 27 levels at the output. The multilevel inverter includes twenty switching devices (NS). The multilevel inverter includes a single DC source. The multilevel inverter need not require capacitors. The multilevel inverter is simulated in Matlab or Simulink and validated on laboratory prototype system. Figure 1

No. of Pages : 16 No. of Claims : 6

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(19) INDIA
(22) Date of filing of Application :19/10/2022

(21) Application No.202241059871 A
(43) Publication Date : 18/11/2022

(54) Title of the invention : A NEW FIGURE OF MERIT FOR PULSE COMPRESSION RADAR

(51) International classification :G01S0013280000, H04W0016140000, G01S0007520000, G01S0007280000, H04L0025060000
(86) International Application No :PCT// Filing Date :01/01/1900
(87) International Publication No : NA
(61) Patent of Addition to Application Number :NA Filing Date :NA
(62) Divisional to Application Number :NA Filing Date :NA

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(57) Abstract :
The present invention relates to the field of a figure of merit. The invention more particularly relates to a new figure of merit for pulse compression radar. The present measure is one the desirable metric to determine goodness of a Radar Pulse Compression Codes, eg Binary (±1), Ternary (o, ±1 ,Polyphase etc. Usually the metrics in practice are Discrimination Factor D, Merit Factor F. In the recent literature D and F have been changed to Peak Side Lobe Ratio (PSLR) and Integrated Side Lobe Ratio (ISLR) as a dB measure for convenience sake. The measure of metric proposed here is New Figure of Merit in a different scenario. This parameter will take care about if any disturbance is there in the received signal that occur due to atmospheric effects.

No. of Pages : 15 No. of Claims : 5

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(19) INDIA
(22) Date of filing of Application :03/03/2022

(21) Application No.202241011385 A
(43) Publication Date : 18/03/2022

(54) Title of the invention : SEE-SAW PNEUMATIC PIEZO AND SOLAR ENERGY GENERATION MECHANISM OPTIMISED USING ARTIFICIAL INTELLIGENCE

(51) International classification	:F03D0009320000, G06N0020000000, F03D0009000000, B60K0016000000, F21S0009030000
(86) International Application No Filing Date	:NA :NA
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(57) Abstract :
ASee-saw pneumatic piezo and solar energy generation mechanism optimised using machine learning as comprises of a see-saw (1) has a roller (2) which slides over the provision given and along with a spring (3) and a pneumatic unit (4) to achieve the see-saw motion. Wherein, the roller (2) is attached with a generator (5) for power generation. The sliding path is being fitted with piezo unit (9) that is directly connected to the rechargeable battery (8), which produces power during sliding, which the movement of the spring (3) and the pneumatic unit (4) end the end it is fitted with a plate with piezo (10) that.is also generate power which is connected to the generator (5). The pneumatic unit (4) has the provision for the air inlet and outlet in that path the fan (6) is attached which could also attached to the generator (5), for power generation, thereby, the solar panel (7) is attached as a separate provision for power generation further optimised using artificial intelligence.

No. of Pages : 9 No. of Claims : 4

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(54) Title of the invention : Trellis Coded Modulation System for Improved Bit Error Rate in Fading Channels

(51) International classification :H04L0001000000, H03M0013250000, H04L0027340000, H04L0001200000, H03M0013290000
(86) International Application No :PCT// Filing Date :01/01/1900
(87) International Publication No : NA
(61) Patent of Addition to Application Number :NA Filing Date :NA
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(57) Abstract :
ABSTRACT: Title: Trellis Coded Modulation system for Improved Bit Error Rate in Fading Channels The present disclosure proposes a trellis coded modulation system for high gain and improved Bit Error Rate (BER) in fading channels. Trellis coded modulation scheme of rate 4/5 is designed for fading channels, which utilizes 32 states and integrated with 32 QAM. The trellis coded modulation system 100 comprises of an input and source encoder module 102, a TCM encoder module 104, an interleaver module (not shown), a 32 QAM modulator module 106, a fading channel 108, a 32 QAM demodulator module 110, a deinterleaver module (not shown), a TCM decoder module 112, source decoder and output module 114. The proposed system improves BER without changing the bandwidth imposed on the system. The proposed system provides improved BER, high data rate for communication over the fading channel and reduces burst errors.

No. of Pages : 28 No. of Claims : 9