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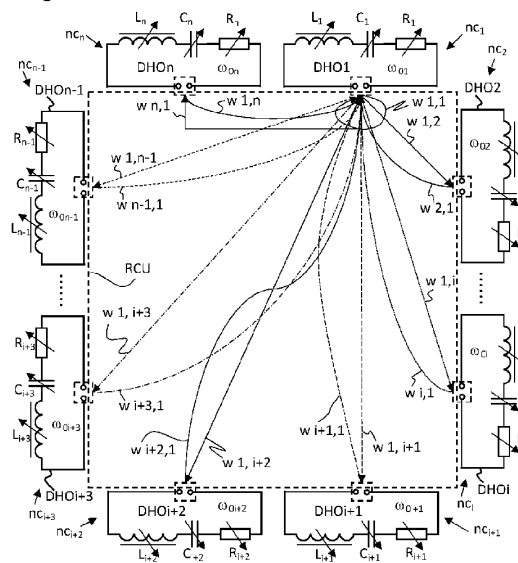
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(54) Title: RECURRENT NEURAL NETWORK AND RECURRENT NEURAL NETWORK DEVICE AND METHOD FOR
TRAINING A RECURRENT NEURAL NETWORK

Fig. 3



(57) Abstract: A recurrent neural network is disclosed, which comprises a plurality of n damped harmonic oscillators (DHOi), each of the n damped harmonic oscillators being one cell (nci) of the neural network, an input unit (IU) adapted for receiving and inputting time-series input data ($S(t)$), a recurrent connection unit (RCU) comprising, for each of the cells (nci), at least one connection ($w_{i,j}$) between the input/output node (100 of the corresponding cell (nci) and the input/output node (100 of at least another one of the cells (ncj) for transmitting the resulting damped harmonic oscillation (h_i) output from the input/output node of the corresponding cell (nci) to the input/output node of the another one of the cells (ncj).

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