Title (en)

SYNAPTIC CHAIN COMPRISING SPINTRONIC RESONATORS BASED ON THE INVERSE SPIN HALL EFFECT AND NEURAL NETWORK COMPRISING SUCH A SYNAPTIC CHAIN

Title (de)

SYNAPTISCHE KETTE MIT SPINTRONIK-RESONATOREN AUF BASIS DES INVERSEN SPIN-HALL-EFFEKTS UND NEURONALES NETZ MIT SOLCH EINER SYNAPTISCHEN KETTE

Title (fr)

CHAÎNE SYNAPTIQUE COMPRENANT DES RÉSONATEURS SPINTRONIQUES BASÉS SUR L'EFFET HALL DE SPIN INVERSE ET RÉSEAU DE NEURONES COMPRENANT UNE TELLE CHAÎNE SYNAPTIQUE

Publication

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Application

EP 19745607 A 20190726

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Abstract (en)

[origin: WO2020021086A1] The invention relates to a synaptic chain (110) of a neural network, the synaptic chain (110) comprising: a converter (C5) made of a metal having a strong inverse spin Hall effect; a transmission line (162); and synapses (112), each synapse being a spintronic resonator (164), the spintronic resonators being in contact with the converter (C5) and receiving signals, preferably hyperfrequency signals, particularly from neurons of a preceding layer, via the transmission line (162), each resonator (164) being a magnetic pad, each resonator having a resonance frequency, and each resonator generating a spin current, the amplitude of which depends on the ratio between the resonance frequency of the resonator and a reference frequency, the converter converting each spin current into a load current.

IPC 8 full level

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