Title (en)

SYNCHRONIZATION OF MULTIPLE NANO-CONTACT SPIN TORQUE OSCILLATORS

Title (de)

SYNCHRONISATION MEHRERER NANOKONTAKT-SPIN-TORQUE-OSZILLATOREN

Title (fr)

SYNCHRONISATION DE PLUSIEURS OSCILLATEURS À TRANSFERT DE SPIN À NANOCONTACT

Publication

EP 3394980 A4 20190731 (EN)

Application

EP 16879484 A 20161220

Priority

- SE 1551694 A 20151221
- SE 2016051290 W 20161220

Abstract (en)

[origin: WO2017111688A1] A spin oscillator device (NCI) comprising a first spin torque oscillator, STO (2), having an extended multilayered magnetic thin-film stack (2), wherein a nano-contact, NC, (6) is provided on said magnetic film stack (2) providing an NC-STO (2, 6) comprising a magnetic free-layer (3) and having a nanoscopic region, wherein the NC (6) is configured to focus electric current (Ide) to the nanoscopic region, configured to generate the necessary current densities needed to excite propagating spin waves (SWs) in the magnetic free layer (3), wherein a circumferential magnetic field (HOe) surrounds the NC (6), wherein an externally applied field (Hext) is configured to control the control the propagation of the spin waves (SWs) forming a spin wave beam (SW beam) to a second spin oscillator device (NCn), which is arranged in spin wave communication and synchronized to the first NCI.

IPC 8 full level

H03B 15/00 (2006.01); **B82Y 25/00** (2011.01); **H01F 10/32** (2006.01); **H01L 29/82** (2006.01); **H10N 50/00** (2023.01); H10N 50/10 (2023.01)

CPC (source: EP SE)

B82Y 25/00 (2013.01 - SE); **H01F 10/32** (2013.01 - EP SE); **H01L 29/82** (2013.01 - SE); **H03B 15/006** (2013.01 - EP SE); **H10N 50/00** (2023.02 - SE); B82Y 25/00 (2013.01 - EP); H10N 50/10 (2023.02 - EP)

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