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(54) Title (FR): INDUCTEUR SE COMPOSANT D'UN RÉSEAU DE CONDENSATEURS

(54) Title (JA): アレイ状のキャパシタで構成されるインダクタ

(57) Abstract:

(EN): A spiral capacitor inductor device equipped with an array of individual capacitors (101) configured in a loop shape in the longitudinal direction is provided as a fourth circuit element. Here, an input signal is applied from one end of the array of individual capacitors, and the output is extracted from the other end. The charge that accumulates inside an individual capacitor increases or decreases according to an increase or decrease in the bias applied to the device, and the increase or decrease in the load increases or decreases the loop current. As a result, magnetic flux (103) produced inside the device is altered. A fourth circuit element type after inductors, capacitors and resistors, in which the size of the magnetic flux is determined by the accumulated charge, is thus provided.

(FR): La présente invention propose un quatrième élément de circuit constitué d'un dispositif d'inducteur capacitif spiralé pourvu d'un réseau de condensateurs individuels (101) configurés en boucle selon l'axe longitudinal. En l'occurrence, un signal d'entrée est appliqué par une extrémité du réseau de condensateurs individuels, et la sortie est extraite à l'autre extrémité. La charge qui s'accumule à l'intérieur d'un condensateur individuel augmente ou diminue en fonction de l'augmentation ou de la diminution de

la tension de polarisation appliquée au dispositif, l'augmentation ou la diminution de la charge faisant augmenter ou diminuer le courant de ligne. Il en résulte une modification du flux magnétique (103) se produisant à l'intérieur du dispositif. L'invention propose ainsi un quatrième type d'éléments de circuit s'ajoutant aux trois premiers déjà connus: les inducteurs, les condensateurs et les résistances, dans lequel les dimensions du flux magnétique sont déterminées par la charge accumulée.

(JA): 第四の回路素子として、長さ方向に沿ってループの形態に構成されたアレイ状の単位キャパシタ 101 を設けたらせん状キャパシタ-インダクタデバイスが与えられる。ここで、入力信号がアレイ状単位キャパシタの一方の端から印加され、出力が他方の端から取り出され、単位キャパシタ内に蓄積される電荷がデバイスに印加されるバイアスの増大または減少に合わせて増加または減少し、電荷の増大または減少がループの電流をそれぞれ増大または減少させ、その結果、デバイス内に発生する磁束 103 を変化させる。これにより、蓄積された電荷で磁束の大きさが決まる、インダクタ、キャパシタ、抵抗に次ぐ第四の回路素子が提供される。

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