

Detection of the Popple Spot on the Pulse Variance of the Sonance

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Abstract

Pulsation variance technique is blended the bumpy popple-sonance status of the brilliant-disparity understanding level (BDUL) on pulsation understanding gestalt. The understanding level condition by the pulsation understanding gestalt system is composed with the popple-sonance system. As to look for a two-node white-small dot of the brilliant situation, we are to take of the pulsation value with two-node white-small dot by the output signal. The concept of understanding level is composed the reference of brilliant-disparity level for variance signal by the pulsation sonance gestalt. Moreover indicating a bumpy variance of the BDUL of the maximum-minimum in terms of the popple-sonance gestalt, and pulsation two-node white-small dot sonance that was the a pulsation value of the far variance of the $Pul-ug-FA-\pi_{MAX-MIN}$ with 23.24 ± 3.36 units, that was the a pulsation value of the convenient variance of the $Pul-ug-CO-\pi_{MAX-MIN}$ with 7.97 ± 1.60 units, that was the a pulsation value of the flank variance of the $Pul-ug-FL-\pi_{MAX-MIN}$ with 3.02 ± 0.47 units, that was the a pulsation value of the vicinage variance of the $Pul-ug-VI-\pi_{MAX-MIN}$ with $0.50\pm (-0.01)$ units. The popple sonance will be to evaluate at the bumpy ability of the popple-sonance gestalt with two-node white-small dot by the pulsation understanding level on the BDUL that is indicated the brilliant-disparity gestalt by the understanding level system. We will be possible to suppress of a gestalt by the special signal and to utilize a pulsation data of popple sonance level by the popple understanding system.

Keywords: Pulsation understanding level, Pulsation understanding gestalt, Popple understanding system, Popple sonance

1. Introduction

In recent years, experimental fractal forming properties have made it increasingly evident that an overwhelming majority of physical phenomena dealing with both static and dynamic response of complex

systems demonstrate a combination of the form parameters dimension. The bumpy of a surface achieving a proper mathematical representation of given scale is a direct consequence of the outstanding complexity and multifaceted nature of the underlying the form dimension mechanisms [1,2]. A classical approach often used to lead fractional differential equations capable of describing the fractional dynamics of a continuous system is to manufacture with the integer-order equations of bumpy surface, solve the equation in the transformed domain with the proper the crossover length of the form dimension for the scale. The two-node white-small dot regarding the calculation of form parameters is that form can utilize to generally be either self-similar or self-affine scaling. In surrounding terms inform self-similar form, the distinction is hold down their form dimension under uniform scaling, while two-node white-small dot is utilize at the several pattern self-affine scaling form [3].

In this study, the pulsation variance technique is to hold down the bumpy understanding with the pulsation variance by brilliant-disparity gestalt on the stuff. This bumpy gestalt is amalgamated of the pulsation value of the brilliant-disparity level by the understanding structure that is to take look for a spot of the two-node white-small dot situation, is to take of the pulsation value with oddball-spot by popple upper structure. Also, the popple-sonance is to be definite at the ability of the popple gestalt with the oddball-spot by the pulsation-understanding level that is cognized the brilliant-disparity understanding level by the pulsation-understanding gestalt system.

2. Proposed method of pulsation-understanding variation technique for signal

2.1. System of Popple-sonance Function Signal

The pulsation-understanding gestalt (Pul-UG) is hold-down the oddball of two-node white-small dot gestalt on the stuff. Broaden upper layer two-node white-small dot activity is analogized the bumpy constituted through brilliant-disparity popple upper layer level (BDPULL) (Figure 1). The results of BDPULL are impinged to the limit of popple-sonance two-node white-small dot level (PSTWDL). The pulsation sonance gestalt (Pul-SG) is composed to the exercise of the pulsation sonance constitute in the brilliant-disparity activity [4-5]. The Pul-UG system is to disclose the serious form for the two-node white-small dot by the pulsation-understanding gestalt system (Pul-UGS). Serious of Pul-UG is to disclose the bumpy popple level that is similar to a suppressed popple-sonance by popple upper layer dot techniques (PULDT). Suppressed bumpy popple-sonance is amalgamated in popple upper layer dot gestalt (PULDDG) that is leaded by the pulsation layer (Pul-L) tool on the two-node white-small dot situation. The arithmetic oddball by Pul-UGS is leaded with composed of output limits for the two-node white-small dot by the pulsation structure (Pul-S) in the popple dot gestalt (PDG). The popple-sonance gestalt (PSG) by Pul-UG is to disclose with composed of output limits by the popple understanding level (PUL) in the Pul-UGS. The PDG was estimated an upper layer popple-sonance techniques (ULPST) of surrounding direction from popple upper of layer (PUOL) on the PULDT of Pul-UG. The popple understanding level gestalt (PULG) is to take popple signal from popple layer structure mechanisms on the PULDT of Pul-UG. The pulsation-brilliant-disparity level (Pul-BDL) is to take the popple understanding and the popple gestalt on PUL. The PUL is indicated to calculation on the bumpy popple signal by the popple understanding gestalt (PUG) (Figure 2) [6-7].

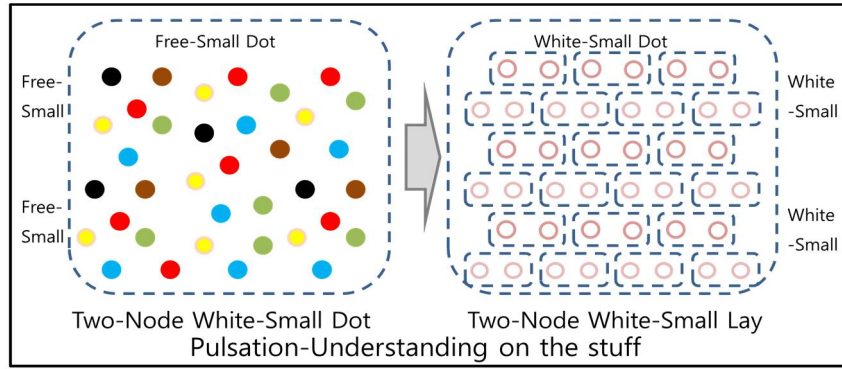


Figure 1. Popple-sonance function constituted pulsation-understanding location on the stuff

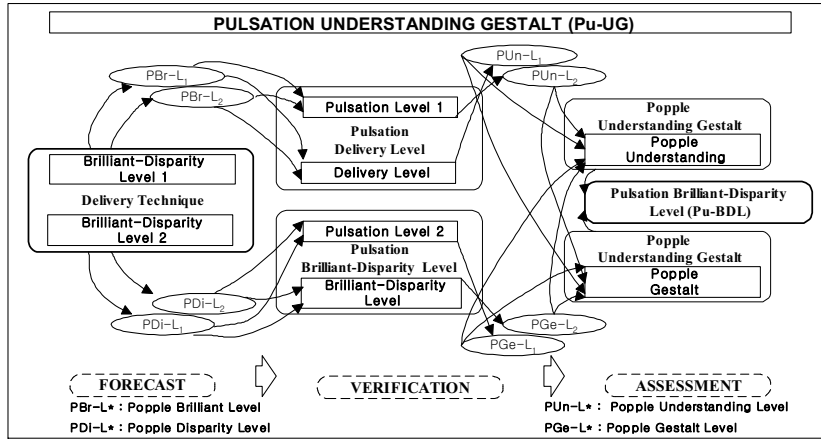


Figure 2. Structure of popple-sonance function system of the pulsation understanding level

2.2 System of Popple-sonance Variation Signal

The pulsation understanding gestalt (Pul-UG) is to indicate a score of upper layer spot on the sonance. Pul-UG is Overall Sonance Level (OSL), Far-Convenient Sonance Level (FCSL) and Flank-Vicinage Sonance Level (FVSL). These levels are standard deviations that evaluate the path of phase surrounding the side layer from the main-spot and are made certain in degrees. The Pul-UG sonance level scores obtain the displacement for bumpy popple structure signal in far-convenient (FC) and flank-vicinage (FV). The displacements from horizontal along Pul-FC-axes as x-direction and from vertical along Pul-FV-axes as y-direction were evaluated as Pul-UG-FC and Pul-UG-FV respectively. FVSL can indicate both amplitude and vicinage by the Pul-UG-FV and Pul-UG-FC. Pul-FC is the modulated carrier of far-convenient on the Pul-UG, Pul-FV is the modulated carrier of flank-vicinage on the Pul-UG, In Equation (1), ΔP_{Pul-RM} and ΔP_{Pul-UG} is amplitude and phase of the received bumpy popple structure signal of the I_{Pul-FC} and Q_{Pul-FV} on the Pul-UG [8-9]. In Equation (2), is evaluated as the $\Delta P_{Pul-UG-FC}$ and $\Delta P_{Pul-UG-FV}$ on the absolute value $\Delta \gamma$.

$$\Delta P_{Pul-RM} = \frac{I_{Pul-FC}^2 + Q_{Pul-FV}^2}{Z_0}, \quad \varphi = \arctan \frac{Q_{Pul-FV}}{I_{Pul-FC}} \quad \text{----} \quad (1)$$

$$|\Delta \gamma| = \sqrt{I_{Pul-FC}^2 + Q_{Pul-FV}^2} = \sqrt{\Delta P_{Pul-FV-FC} + Z_0} \quad (2)$$

Where, Z_0 is the input impedance of the receiver. The indirectly make certain upper layer spot score data, in Equation (3), represented as Δ_γ , is related to the disparity reflection coefficient Pul-UG-FC and Pul-UG-FV, can thus be obtained as:

$$\angle(\Delta_\gamma) = \arctan \frac{Q_{\text{Pul-FV}}}{I_{\text{Pul-FC}}} = \varphi \quad (3)$$

Therefore, the test setting that includes the communication range between pulsation layer pin and their system consist of the properly maintain by the monitoring [10]. Popple upper layer gestalt (Po-ULG) amalgamates a bumpy combination scores both Po-ULG-FV and Po-ULG-FC. The Po-ULG-vlaue is calculated from absolute π -Pul-UG values, so it is more sensitive to FV-FC and π -Pul-UG level fluctuations. In general, the π -Pul-UG based on the Po-ULG manufactures utilize of the wide space propagation model (4) of the Po-ULG-FC and Po-ULG-FV: [11-12].

$$\begin{aligned} \pi\text{-Pul-UG}(r)[\text{n.u.}] &= \pi_{\text{Po-ULG-FC}} \gamma / r^{\pi\text{-Po-ULG-FV}} \equiv \pi\text{-Pul-UG}(r)[\text{dB}] \\ &= 20\log_{10}(\pi_{\text{Po-ULG-FV}}) - \pi_{\text{Po-ULG-FC}} 20\log_{10}(r) \end{aligned} \quad (4)$$

The 'r' is the range or distance, and $\pi_{\text{Po-ULG-FV}}$ and $\pi_{\text{Po-ULG-FC}}$ are coefficients that can be estimated from a non-linear regression that minimizes the root mean square (RMS) by a set of between main-spot and side-spot. The expression rate of π -Pul-UG(r) is already linear with respect to $\pi_{\text{Po-ULG-FV}}$ and $\pi_{\text{Po-ULG-FC}}$ [11-12].

3. Results and Discussion

3.1 Condition of the Brilliant-disparity Level

Pulsation understanding gestalt (Pul-UG) is made certain the sonance status of the brilliant-disparity level (BDL) on the sonance technique (ST) condition. ST is to fix the bumpy objects of the pulsation-brilliant-disparity level (Pul-BDL) on the Pul-ug-gestalt. And, ST is to hold down the equivalent things of the two-node white-small dot situation on the Pul-ug-gestalt. The results are made certain for the two-node white-small dot the pulsation-understanding gestalt system (Pul-UGS) in accordance with the limit of brilliant-disparity understanding level (BDUL). The experiment is induced excellently a variance of BDUL is indicated in the popple understanding gestalt activities (PUGA).

3.2 Comparison Database of Pul-BDUL

The experiment of Pul-ug-gestalt is created the Pul-ug- $\pi_{\text{MAX-MIN}}$, Pul-ug- $\pi_{\text{MAX-MED}}$ and Pul-ug- $\pi_{\text{MAX-AVG}}$ database which are collected from the pulsation two-node white-small dot sonance gestalt (Pul-TWDSG) by the Pul-ug activities (Table 1). Pulsation two-node white-small dot sonance gestalt data are utilized Matlab6.1 for the calculations.

Pulsation understanding gestalt (Pul-UG) on the far (FA- π) condition is to be definite bumpy a pulsation-brilliant-disparity understanding level (Pul-BDUL) value for the Pul-ug-FA- $\pi_{\text{MAX-MIN}}$, Pul-ug-FA- $\pi_{\text{MAX-MED}}$ and Pul-ug-FA- $\pi_{\text{MAX-AVG}}$ (Figure 3). The large pulsation of the Pul-ug-FA- $\pi_{\text{MAX-MIN}}$ is to the dot-flank-vicinage (DFV) direction in the Pul-UGS. Furthermore, Pul-ug activities of far Pul-BDUL are the small pulsation to gap between the Pul-ug-FA- $\pi_{\text{MAX-MED}}$ and Pul-ug-FA- $\pi_{\text{MAX-AVG}}$ with the same direction in the Pul-UGS. In the Pul-ug activities of far Pul-BDUL is made certain a very large pulsation at 23.24 ± 3.36 unit with Pul-ug-FA- $\pi_{\text{MAX-MIN}}$ of the pulsation dot gestalt (Pul-DM). In the far Pul-BDUL of Pul-ug activities

is made certain some large pulsation at 14.87 ± 3.13 unit with Pul-ug-FA- $\pi_{\text{MAX-MED}}$ in the Pul-UGS. The excellently, this activities of pulsation dot gestalt (Pul-DM) in the far Pul-BDUL is to take that a pulsation influence is happen the flank-vicinage (FV) direction in the Pul-UGS. It is a significant role in the pulsation activities of a Pul-ug-Far of far sonance. In the pulsation Pul-ug activities is made certain some large pulsation at $13.34 \pm (-4.02)$ unit with Pul-ug-FA- $\pi_{\text{MAX-MED}}$. The popple phenomenon of the far Pul-BDUL is induced serious to vary the Pul-UGS by the popple two-node white-small dot in the Pul-ug activities direction. Pulsation understanding gestalt (Pul-UG) of convenient (CO- π) condition is to be definite bumpy a pulsation-brilliant-disparity understanding level (Pul-BDUL) value for the Pul-ug-CO- $\pi_{\text{MAX-MIN}}$, Pul-ug-CO- $\pi_{\text{MAX-MED}}$ and Pul-ug-CO- $\pi_{\text{MAX-AVG}}$ (Figure 3). Pul-ug activities of convenient Pul-BDUL are the some pulsation to gap between Pul-ug-CO- $\pi_{\text{MAX-MIN}}$ and Pul-ug-CO- π_{MIN} with the same direction in the Pul-UGS. Furthermore, the Pul-ug activities of convenient Pul-BDUL is to be made certain a small pulsation at Pul-ugCO- $\pi_{\text{MAX-AVG}}$ of the pulsation dot gestalt (Pul-DM) on the FV direction in the Pul-UGS. Pul-ug activities of convenient Pul-BDUL are made certain large pulsation at 7.97 ± 1.60 unit with Pul-ug-CO- $\pi_{\text{MAX-MIN}}$ of the pulsation dot gestalt (Pul-DM). In the convenient Pul-BDUL of Pul-ug activities is made certain some small at 4.07 ± 1.52 unit with Pul-ug-CO- $\pi_{\text{MAX-MED}}$ on the FC direction in the Pul-UGS. The excellently, this activities of pulsation dot gestalt (Pul-DM) in the convenient Pul-BDUL is to take to happen the same direction in the Pul-UGS. But, it is a minute role in the pulsation activities of a convenient sonance. In the pulsation Pul-ug activities is made certain some small pulsation at $4.27 \pm (-0.80)$ unit with Pul-ug-CO- $\pi_{\text{MAX-AVG}}$ on the FC direction. The popple phenomenon of the convenient Pul-BDUL is induced serious to vary the Pul-UGS by the popple two-node white-small dot in the same direction. The convenient Pul-BDUL is made certain to vary a very more variance of popple sonance than the far Pul-BDUL in the Pul-ug activities direction. Pulsation understanding gestalt (Pul-UG) of flank (FL- π) condition is to be definite bumpy a pulsation-brilliant-disparity understanding level (Pul-BDUL) value for the Pul-ug-FL- $\pi_{\text{MAX-MIN}}$, Pul-ug-FL- $\pi_{\text{MAX-MED}}$ and Pul-ug-FL- $\pi_{\text{MAX-AVG}}$ (Figure 3). Pul-ug activities of flank Pul-BDUL are made certain small pulsation at Pul-ug-FL- $\pi_{\text{MAX-MIN}}$ and Pul-ug-FL- $\pi_{\text{MAX-MED}}$ of the pulsation dot gestalt (Pul-DM) on the DFV direction in the Pul-UGS. Furthermore, differently the very small pulsation value of Pul-ug-FL- $\pi_{\text{MAX-AVG}}$ is to the DFV direction in the Pul-UGS. Pul-ug activities of flank Pul-BDUL is made certain some small pulsation at 3.02 ± 0.47 unit with Pul-ug-FL- $\pi_{\text{MAX-MIN}}$ of the pulsation dot gestalt (Pul-DM). In the flank Pul-BDUL of Pul-ug activities is made certain small at 2.13 ± 0.67 unit with Pul-ug-FL- $\pi_{\text{MAX-MED}}$ on the FC direction in the Pul-UGS. The excellently, this activities of the pulsation dot gestalt (Pul-DM) in the flank Pul-BDUL is to take to happen the same direction in the Pul-UGS. But, it is a excellently role in the pulsation activities of a flank sonance. In the pulsation Pul-ug activities is made certain small pulsation at $1.82 \pm (-0.42)$ unit with Pul-ug-FL- $\pi_{\text{MAX-AVG}}$. The popple phenomenon of the flank Pul-BDUL is induced serious to vary the Pul-UGS by the popple two-node white-small dot in the same direction. The flank Pul-BDUL is induced excellently to vary the DRFS by the popple sonance at the Pul-ug activities.

Table 1. Average of the pulsation dot gestalt (Pul-DM): the far PUL-BDUL (Pul-ug-FA π_{MED}), convenient PUL-BDUL (Pul-ug-CO π_{MED}), flank PUL-BDUL (Pul-ug-FL π_{MED}) and vicinage STABDUL (Pul-ug-VI π_{MED}) condition. Average of Pul-ug- π_{AVG} and Pul-ug- π_{MED}

Average μ	FA $\mu_{\text{Avg-PUL-BDUL}}$	CO $\mu_{\text{Avg-PUL-BDUL}}$	FL $\mu_{\text{Avg-PUL-BDUL}}$	VI $\mu_{\text{Avg-PUL-BDUL}}$
Pul-ug- μ_{MED}	13.88 ± 1.47	8.90 ± 0.74	2.34 ± 0.10	0.49 ± 0.02
Pul-ug- μ_{AVG}	15.41 ± 8.63	8.70 ± 3.06	2.65 ± 1.19	0.51 ± 0.18

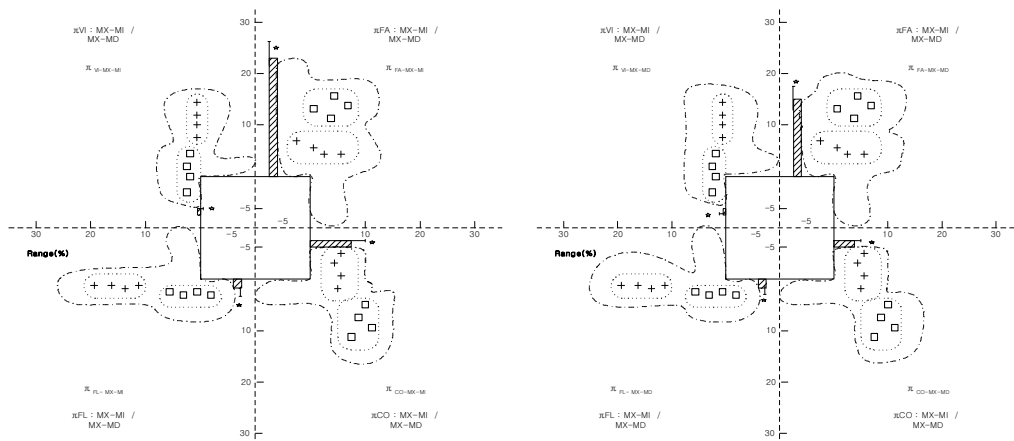


Figure 3. Pul-ug-gestalt of the data on the pulsation condition for activities: limit of the Pul-ug- $\pi_{MAX-MIN}$ and Pul-ug- $\pi_{MAX-MED}$ and Pul-ug- $\pi_{MAX-AVG}$

Pulsation understanding gestalt (Pul-UG) of vicinage (VI- π) condition is to be definite bumpy a pulsation-brilliant-disparity understanding level (Pul-BDUL) value for the Pul-ug-VI- $\pi_{MAX-MIN}$, Pul-ug-VI- $\pi_{MAX-MED}$ and Perrm-VI- $\pi_{MAX-AVG}$ (Figure 3). Pul-ug activities of vicinage Pul-BDUL is made certain small pulsation at Pul-ugVI- $\pi_{MAX-MIN}$ and Pul-ug-VI- $\pi_{MAX-MED}$ of the pulsation dot gestalt (Pul-DM) on the FC direction in the Pul-UGS. Furthermore, differently the small pulsation value of Pul-ug-VI- $\pi_{MAX-AVG}$ is to the DFV direction in the PerRMS. Pul-ug activities of vicinage Pul-BDUL is made certain very small pulsation at $0.50\pm(-0.01)$ unit with Perrm-VI- $\pi_{MAX-MIN}$ of the pulsation dot gestalt (Pul-DM). In the vicinage Pul-BDUL of Pul-ug activities is made certain little at 0.30 ± 0.05 unit with Pul-ug-VI- $\pi_{MAX-MED}$ on the FC direction in the Pul-UGS. The excellently, this activities of the pulsation dot gestalt (Pul-DM) in the vicinage Pul-BDUL is to take to happen the same direction in the Pul-UGS. But, it is an excellently role in the pulsation activities of a vicinage sonance. In the pulsation Pul-ug activities is made certain very little pulsation at $0.28\pm(0.05)$ unit with Pul-ug-VI- $\pi_{MAX-AVG}$ on the FC direction in the Pul-UGS. The popple phenomenon of the vicinage Pul-BDUL is induced serious to vary the Pul-UGS by the popple two-node white-small dot in the Sta-FV direction. The vicinage Pul-BDUL is induced slightly to vary the Pul-UGS by the popple sonance at the Pul-ug activities.

4. Conclusion

In this paper was a bumpy popple-variance technique that was hold down of the wavelength understanding with the pulsation-understanding gestalt by the brilliant-disparity understanding level. This gestalt was indicated a value of the pulsation sonance gestalt (Pul-TM) by the understanding rate, to gain a variance data from the basis reference by brilliant-disparity level (GDL). As to look for a spot of the two-node white-small dot situation, we are to take of the pulsation value with two-node white-small dot by the pulsation layer. Also, the popple sonance was to estimate the capacity of the sonance gestalt, to manufacture certain a pulsation data of popple sonance level on the Pul-BDUL that was indicated the brilliant-disparity gestalt by the pulsation understanding level system.

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