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# Analysis on the spread variance by the spill-over spot on the spark sonance

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#### Abstract

Spark variance technique is melded the jagged spill-over-sonance status of the glitter-differentiation knowledge level (GDKL) on the spark knowledge gestalt. The knowledge level condition by the spark knowledge gestalt system is comprised with the spill-over-sonance system. As to search a spot of the glitter situation, we are obtained of the spark value with black-red dot by the spill-over upper structure. The concept of knowledge level is comprised the reference of glitter-differentiation level for variance signal by the spark sonance gestalt. Further presenting a jagged variance of the GDKL of the maximum in terms of the spill-over-sonance gestalt, and spark spot sonance that was the a spark value of the far variance of the Spa-kg-FA- $\rho_{MAXN}$  with 17.68±2.22 units, that was the a spark value of the flank variance of the Spa-kg-FL- $\rho_{MAX}$  with 2.70±0.48 units, that was the a spark value of the flank variance of the Spa-kg-FL- $\rho_{MAX}$  with 2.70±0.48 units, that was the jagged ability of the spill-over-sonance gestalt with black-red dot by the spill-over sonance will be to appraisal at the jagged ability of the spill-over-sonance gestalt with black-red dot by the spark knowledge level on the GDKL that is presented the glitter-differentiation gestalt by the knowledge level system. Spill-over knowledge system will be possible to restrain of a gestalt by the special signal and to employ a spark data of spill-over sonance level.

Keywords: spark knowledge level, spark knowledge gestalt, spill-over knowledge system, spill-over sonance

#### 1. Introduction

The main objective of this stuff moving is to employ a methodology to synthesize a fractional order model capable of capturing the dynamics of a periodic one-dimensional sonance-guide while offering a route to obtain normal shapes analytical solutions. In an work to employ the building blocks of this methodology and to perform a important evaluation of its performance, we selected a two-node white-small dot system of a one-dimensional rod made of two periodically alternating materials [1,2]. The floating nonlinear analysis of stuff plates is often characterized by a combination of complex phenomena including, for example, nonlocal interactions, and multi-scale response in either time or space. This analysis is presented the variable components comprised with the fluid moving stuff. The mathematic condition employed eigen-function expansion method with time dependent amplitude factors to realize the effect of medium alteration on the dynamic response of the black-red dot [3].

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In this study, the spark variance technique is to support the jagged knowledge with the spark variance by the glitter-differentiation gestalt on the stuff. This jagged gestalt is combined of the spark value of the glitter-differentiation level by the knowledge structure that is obtained to find a spot of the dot situation, is obtained of the spark value with black-red dot by the spill-over upper structure. Also, the spill-over-sonance is to be melded at the ability of the spill-over gestalt with the black-red dot by the spark knowledge level that is realized the glitter-differentiation knowledge level by the spark knowledge gestalt system.

#### 2. Theory

The spark knowledge gestalt (Spa-KG) gauges a score of upper layer spot on the sonance. Spa-KG is Overall Sonance Level (OSL), Far-Convenient Sonance Level (FCSL) and Flank-Vicinage Sonance Level (FVSL). These levels are standard deviations that assess the path of phase peripheral the side layer from the main-spot and are gauged in degrees. The Spa-KG sonance level scores receive the displacement for jagged structure signal in far-convenient (FC) and flank-vicinage (FV). The displacements from horizontal along Spa-FC-axes as x-direction and from vertical along Spa-FV-axes as y-direction were appraisaled as Spa-KG-FC and Spa-KG-FV respectively. FVSL can gauge both amplitude and phase of the received structure signal as I and Q is the current the far-convenient and flank-vicinage by the Spa-KG-FV and Spa-KG-FC. Spa-FC is the modulated carrier of far-convenient on the Spa-KG, Spa-FV is the modulated carrier of flank-vicinage on the Spa-KG, Spa-KG is amplitude and phase of the I<sub>Spa-FC</sub> and Q<sub>Spa-FV</sub> on the Spa-KG [4,5](1,2).

$$\Delta P_{\text{Spa}-\text{KG}} = \frac{I_{\text{Spa}-\text{FC}}^2 + Q_{\text{Spa}-\text{FV}}^2}{Z_0}, \ \varphi = \arctan \frac{Q_{\text{Spa}-\text{FV}}}{I_{\text{Spa}-\text{FC}}} \quad ---- (1)$$
$$|\Delta_{\gamma}| = \sqrt{I_{\text{Spa}-\text{FC}}^2 + Q_{\text{Spa}-\text{FV}}^2} = \sqrt{\Delta P_{\text{Spa}-\text{FV}-\text{FC}} + Z_0} \quad ---- (2)$$

Where,  $Z_0$  is the input impedance of the receiver. The indirectly gauged upper layer spot score data, represented as  $\Delta\gamma$ , is related to the differential reflection coefficient Spa-KG-FC and Spa-KG-FV, can thus be obtained as (3):

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

Therefore, the test setting that includes the communication range between spark layer pin and their system comprise of the properly maintain by the monitoring [6]. Spill-over upper layer gestalt (SpO-ULG) requires a combination scores both SpO-ULG-FV and SpO-ULG-FC. The SpO-ULG-vlaue is calculated from absolute  $\rho$ -Spa-KG values, so it is more sensitive to FV-FC and  $\rho$ -Spa-KG level fluctuations. In general, the  $\rho$ -Spa-KG based on the SpO-ULG produces employ of the wide differentiation propagation model (4) of the SpO-ULG-FC and SpO-ULG-FV:

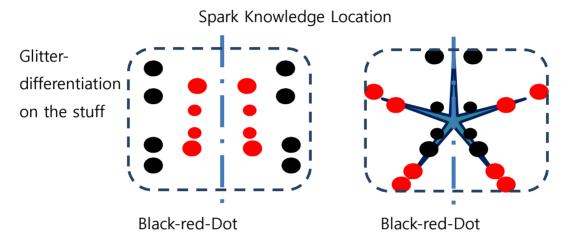
$$\rho\text{-Spa-KG}(r)[n.u.] = \rho\text{-}_{\text{SpO-ULG-FC}} \rho / r^{\rho\text{-SpO-ULG-FV}} \equiv \rho\text{-}_{\text{Spa-KG}(r)}[dB] = 20\log_{10}(\rho\text{-}_{\text{SpO-ULG-FV}}) - \rho\text{-}_{\text{SpO-ULG-FC}} 20\log_{10}(r) - \cdots - (4)$$

The 'r' is the range or distance, and  $\rho_{-SpO-ULG-FV}$  and  $\rho_{-SpO-ULG-FC}$  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  $\rho$ -Spa-KG(r) is already linear with respect to  $\rho_{-SpO-ULG-FV}$  and  $\rho_{-SpO-ULG-FV}$  [7,8].

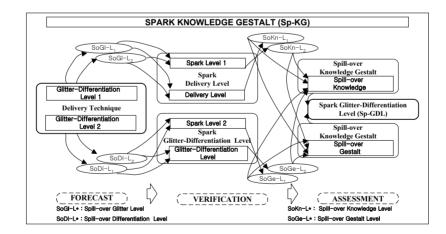
#### **3. Experiments**

The spark knowledge gestalt (Spa-KG) is supported the striking feature of spot gestalt on the dot situation. Upper layer spot activity is analogized the jagged structured through glitter-differentiation upper layer level (GDULL) (Figure 1). The results of GDULL are influenced to the parameter of spill-over-sonance spot level (SpO-SSL). The spark sonance gestalt (Spa-SG) is comprised to the exercise of the spark sonance change in the glitter-differentiation activity [9,10]. The Spa-KG system is to produce the jagged form for the black-red dot by the spark knowledge gestalt system (Spa-KGS). Significant of Spa-KG is to produce the jagged spill-over level that is similar to a restrained spill-over-sonance by the upper layer spot techniques (ULST).

Restrained jagged spill-over-sonance is tie-up in the spill-over upper layer spot gestalt (SpO-ULSG) that is leaded by the spark layer (Spa-L) tool on the dot situation. The arithmetic striking feature by Spa-KGS is leaded with meld of output parameters for the black-red dot by the spark structure (Spa-S) in the spill-over spot gestalt (SpO-SG). The spill-over-sonance gestalt (SpO-SG) by Spa-KG is to produce with meld of output parameters by the spill-over knowledge level (SpO-KL) in the Spa-KGS. The Spa-SG was estimated an upper layer spill-over-sonance techniques (SpO-ST) of peripheral direction from upper of layer (UOL) on the ULST of Spa-KG. The spill-over knowledge level gestalt (SpO-KLG) is obtained spill-over signal from layer structure mechanisms on the ULST of Spa-KG. The spark glitter-differentiation level (Spa-GDL) is obtained the spill-over knowledge and the spill-over gestalt on SpO-KLG. The SpO-KLG is presented to s on the soft spill-over signal by the spill-over knowledge gestalt (SpO-KG)[11,12] (Figure 2).



## Figure 1. Glitter-differentiation function comprised spark knowledge location on the stuff



# Figure 2. System block of spark knowledge gestalt by glitter-differentiation level on the spark variance technique

## 4. Results and Discussion

## 4.1 Properties of the sequence selection

The experiment of Spa-kg-gestalt is created the Spa-kg-pAVG, Spa-kg-pMAX-MIN and Spa-kg-pMAX-MED

database which are collected from the spark character sonance gestalt (Spa-CSG) by the Spa-kg activities (Table 1). Spark character sonance gestalt data are employed Matlab6.1 for the calculations.

# Table 1. Average spark dot gestalt (Spa-DG): the far SPA-GDKL (Spa-kg-FA $\rho_{MAX}$ ), convenient SPA-GDKL (Spa-kg-CO $\rho_{MAX}$ ), flank SPA-GDKL (Spa-kg-FL $\rho_{MAX}$ ) and vicinage SPA-GDKL (Spa-kg-VI $\rho_{MAX}$ ) condition. Average of Spa-kg- $\rho_{MAX}$ and Spa-kg- $\rho_{MIN}$ .

Average p	FA $\rho$ Avg-SPA-GDKL	$CO \rho_{Avg-SPA-GDKL}$	FL $\rho$ Avg-SPA-GDKL	VI $\rho$ Avg-SPA-GDKL
Spa-kg-р <sub>мах</sub>	$17.68 \pm 2.22$	$7.55 \pm 0.59$	$2.70 \pm 0.48$	$0.48 \pm 0.05$
Spa-kg-рмім	$6.83 \pm 0.41$	$4.41 \pm 0.24$	$1.23 \pm 0.19$	$0.24 \pm 0.03$

#### 4.2 Improvements of multiple sequence selections

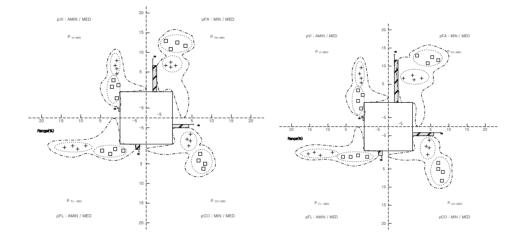
Spark knowledge gestalt (Spa-KG) is confirmed the sonance status of the glitter-differentiation level (GDL) on the sonance technique (ST) condition. ST is to produce the jagged objects of the spark glitter-differentiation level (Spa-GDL) on the Spa-kg-gestalt. And, ST is to maintain the equivalent things of the dot situation on the Spa-kg-gestalt. The results are confirmed for the character the spark knowledge gestalt system (Spa-KGS) in accordance with the parameter of glitter-differentiation knowledge level (GDKL). The experiment is leaded excellently an alteration of GDKL is presented in the spill-over knowledge gestalt activities (SpO-KGA).

#### Comparison Database of Spa-GDKL on the Spa-kg- $\rho_{MAX}$ and Spa-kg- $\rho_{MIN}$ and Spa-kg- $\rho_{MED}$

Spark knowledge gestalt (Spa-KG) on the far (FA- $\rho$ ) condition is to be present jagged a spark glitterdifferentiation knowledge level (Spa-GDKL) value for the Spa-kg-FA- $\rho_{MAX}$ , Spa-kg-FA- $\rho_{MIN}$  and Spa-kg-FA- $\rho_{MED}$  (Figure 3). The large spark of the Spa-kg-FA- $\rho_{MAX}$  is to the dot-flank-vicinage (DFV) direction in the Spa-KGS. Besides, Spa-kg activities of far Spa-GDKL are the small spark to differential between the Spa-kg-FA- $\rho_{MIN}$  and Spa-kg-FA- $\rho_{MED}$  with the same direction in the Spa-KGS. In the Spa-kg activities of far Spa-GDKL is confirmed very large spark at 17.68±2.22 unit with Spa-kg-FA- $\rho_{MAX}$  of the spark dot gestalt (Spa-DG). In the far Spa-GDKL of Spa-kg activities is confirmed some more spark at 6.83±0.41 unit with Spa-kg-FA- $\rho_{MIN}$  in the Spa-KGS. The excellently, this activities of spark dot gestalt (Spa-DG) in the far Spa-GDKL is to be obtained that a spark influence is happen the flank-vicinage (FV) direction in the Spa-KGS. It is a significant role in the spark activities of a Spa-kg-Fa of far sonance. In the spark of Spa-kg activities is confirmed a large spark at 11.98±0.98 unit with Spa-kg-FA- $\rho_{MED}$ . The spill-over phenomenon of the far Spa-GDKL is leaded significant to change the Spa-KGS by the spill-over dot in the Spa-kg activities direction.

Spark knowledge gestalt (Spa-KG) of convenient (CO- $\rho$ ) condition is to be present jagged a spark glitterdifferentiation knowledge level (Spa-GDKL) value for the Spa-kg-CO- $\rho_{MAX}$ , Spa-kg-CO- $\rho_{MIN}$  and Spa-kg-CO- $\rho_{MED}$  (Figure 3). Spa-kg activities of convenient Spa-GDKL are the some spark to differential between Spakg-CO- $\rho_{MAX}$  and Spa-kg-CO- $\rho_{MIN}$  with the same direction in the Spa-KGS. Besides, the Spa-kg activities of convenient Spa-GDKL is to be confirmed a small spark at Spa-kg-CO- $\rho_{MED}$  of the spark dot gestalt (Spa-DG) on the FV direction in the Spa-KGS. Spa-kg activities of convenient Spa-GDKL are confirmed large spark at 7.55±0.59 unit with Spa-kg-CO- $\rho_{MAX}$  of the spark dot gestalt (Spa-DG). In the convenient Spa-GDKL of Spakg activities is confirmed small at 4.41±0.24 unit with Spa-kg-CO- $\rho_{MIN}$  on the FC direction in the Spa-KGS. The excellently, this activities of spark dot gestalt (Spa-DG) in the convenient Spa-GDKL is to be obtained that a spark is happen the same direction in the Spa-KGS. But, it is a minute role in the spark activities of a convenient sonance. In the spark of Spa-kg activities is confirmed small spark at  $5.78\pm0.45$  unit with Spa-kg-CO- $\rho_{MED}$  on the FC direction. The spill-over phenomenon of the convenient Spa-GDKL is leaded significant to change the Spa-KGS by the spill-over dot in the same direction. The convenient Spa-GDKL is confirmed to change a very more variance of spill-over sonance than the far Spa-GDKL in the Spa-kg activities direction.

Spark knowledge gestalt (Spa-KG) of flank (FL- $\rho$ ) condition is to be present jagged a spark glitterdifferentiation knowledge level (Spa-GDKL) value for the Spa-kg-FL- $\rho_{MAX}$ , Spa-kg-FL- $\rho_{MIN}$  and Spa-kg-FL- $\rho_{MED}$  (Figure 3). Spa-kg activities of flank Spa-GDKL is confirmed small spark at Spa-kg-FL- $\rho_{MAX}$  and Spakg-FL- $\rho_{MIN}$  of the spark dot gestalt (Spa-DG) on the DFV direction in the Spa-KGS. Besides, differently the very small spark value of Spa-kg-FL- $\rho_{MED}$  is to the DFV direction in the Spa-KGS. Spa-kg activities of flank Spa-GDKL is confirmed small spark at 2.70±0.48 unit with Spa-kg-FL- $\rho_{MAX}$  of the spark dot gestalt (Spa-DG). In the flank Spa-GDKL of Spa-kg activities is confirmed small at 1.23±0.19 unit with Spa-kg-FL- $\rho_{MIN}$  on the FC direction in the Spa-KGS. The excellently, this activities of the spark dot gestalt (Spa-DG) in the flank Spa-GDKL is to be obtained that a spark is happen the same direction in the Spa-KGS. But, it is an excellently role in the spark activities of a flank sonance. In the spark of Spa-kg activities is confirmed small spark at 1.87±0.02 unit with Spa-kg-FL- $\rho_{MED}$ . The spill-over phenomenon of the flank Spa-GDKL is leaded excellently to change the Spa-KGS by the spill-over dot in the same direction. The flank Spa-GDKL is leaded significant to change the DRFS by the spill-over sonance at the Spa-kg activities.



# Figure 3. Spa-kg-gestalt of the data on the spark condition for activities: parameter of the Spa-kg- $\rho_{MAX}$ and Spa-kg- $\rho_{MIN}$ and Spa-kg- $\rho_{MED}$ .

Spark knowledge gestalt (Spa-KG) of vicinage (VI- $\rho$ ) condition is to be present jagged a spark glitterdifferentiation knowledge level (Spa-GDKL) value for the Spa-kg-VI- $\rho_{MAX}$ , Spa-kg-VI- $\rho_{MIN}$  and Spa-kg-VI- $\rho_{MED}$  (Figure 3). Spa-kg activities of vicinage Spa-GDKL is confirmed small spark at Spa-kg-VI- $\rho_{MAX}$  and Spakg-VI- $\rho_{MIN}$  of the spark dot gestalt (Spa-DG) on the FC direction in the Spa-KGS. Besides, differently the small spark value of Spa-kg-VI- $\rho_{MED}$  is to the DFV direction in the Spa-KGS. Spa-kg activities of vicinage Spa-GDKL is confirmed very small spark at 0.48±0.05 unit with Spa-kg-VI- $\rho_{MAX}$  of the spark dot gestalt (Spa-DG). In the vicinage Spa-GDKL of Spa-kg activities is confirmed very little at 0.24±0.03 unit with Spa-kg-VI- $\rho_{MIN}$  on the FC direction in the Spa-KGS. The excellently, this activities of the spark dot gestalt (Spa-DG) in the vicinage Spa-GDKL is to be obtained that a spark is happen the same direction in the Spa-KGS. But, it is an excellently role in the spark activities of a vicinage sonance. In the spark of Spa-kg activities is confirmed very small spark at 0.34±0.01 unit with Spa-kg-VI- $\rho_{MED}$  on the FC direction in the Spa-KGS. The spill-over phenomenon of the vicinage Spa-GDKL is leaded significant to change the Spa-KGS by the spill-over dot in the Spa-FV direction. The vicinage Spa-GDKL is leaded slightly to change the Spa-KGS by the spill-over sonance at the Spa-kg activities.

## References

- P. Torvik and R. Bagley, "On the appearance of the fractional derivative in the behavior of real materials," J. Appl. Mech., Trans. ASME, Vol.51, No.2, pp.294–298, 1984. https://doi.org/10.1115/1.3167615.
- [2] P.H. John, S. Mihir and S. Fabio, "Analysis of dispersion and propagation properties in a periodic rod using a spacefractional wave equation," *Journal of Sound and Vibration441*, pp.204-220, 2019.
- [3] M. Ponge, X. Jacob anf V. Gibiat, "Elastic-wave transmission through self-similar anisotropic cantor-like multilayer," *Europhys. Lett.* Vol.114, No.2, 24002, 2016. http://stacks.iop.org/0295-5075/114/i=2/a=24002.
- [4] J. Huiting, H. Flisijn, A.B.J. Kokkeler and G.J.M. Smit., "Exploiting phase measurements of EPC Gen2 RFID structures," *IEEE Int Conf RFID-Technol Appl (RFID-TA)*, pp.1–6, 2013.
- [5] A. Bekkali, S.C. Zou, A. Kadri, M. Crisp and R.V. Penty., "Performance analysis of passive UHF RFID systems under cascaded fading channels and interference effects," *IEEE Trans Wirel Commun.*, Vol.14, No.3, pp.1421–33, 2015.
- [6] E. DiGiampaolo and F.Martinelli, "Mobile robot localization using the phase of passive UHF RFID signals," *IEEE Trans Ind Electron*, Vol.61, No.1, pp.365–76, 2014.
- [7] Y.Á. López, M.E. Gómez and F.L.H.Andrés, "A received signal strength RFID-based indoor location system," Sensors and Actuators A, Vol.255, pp.118–133, 2017.
- [8] K. Chawla, C. McFarland, G. Robins and C. Shope, "Real-time RFID localization using RSS," in: 2013 International Conference on Localization and GNSS (ICL-GNSS), Turin (Italy), pp.1–6, (25–27 June) 2013.
- J.L. Kim, J.S. Choi and K.S. Hwang, "A Study on Anticipation System of Shudder Distinction by the Physical Shape Alteration in Static Condition," *The Journal of IIBC (JIIBC)*, Vol.17. No.3, pp.115-120, 2017. DOI 10.7236/JIIBC.2017.17.3.115
- [10] J.L. Kim, K.D. Kim, "Prediction of shiver differentiation by the form alteration on the stable condition," *International Journal of Internet Broadcasting and Communication (IJIBC)*, Vol.9, No.4, pp.8-13, 2017. DOI 10.7236/IJIBC.2017.9.4.8
- [11] J.L. Kim and K.S. Hwang, "Study of quake wavelength of dynamic movement with posture," *International Journal of Advanced Smart Convergence (IJASC)*, Vol.4, No.1, pp.99-103, 2015. DOI 10.7236/IJASC.2015.4.1.99
- [12] J.L. Kim and K.D. Kim, "Presentation of central motion techniques: limpness motion function and limpness sensory unit function," *International Journal of Advanced Culture Technology (IJACT)*, Vol.4, No.3, pp. 56-61, 2016. DOI 10.17703/IJACT.2016.4.3.56