

Violin Music Timeliness and Aesthetics Evaluation System Based on Melody Signal Cyclic Fluctuation Matching Algorithm

Xiaoling Wang
Changji University
Changji, Xinjiang 523808, China

Abstract: On the basis of the original spectrum allocation scheme based on the cyclostationary characteristics of the signal, a new spectrum allocation scheme is proposed. And take three kinds of digital signals widely used in real life as an example. From the perspective of modern art, this paper discusses and analyzes the aesthetic characteristics of Chinese violin music, taking the concerto "Liang Zhu" as an example. It is proposed that "unfinished" stimulates "re-creation", symbolic meaning evokes emotional resonance, contextual expression stimulates artistic conception association, and abstract lines lead to essential thinking. Starting with the demonstration strategy of violin performance and the innovation strategy of violin performance, it expounds the strategies of cultivating students' musical aesthetic awareness in violin performance.

Keywords: Violin Music Timeliness, Aesthetics Evaluation, Melody Signal, Cyclic Fluctuation Matching Algorithm

1. INTRODUCTION

Up to now, the violin has been introduced to my country for more than 100 years. Due to the lifting of the "hundred-year sea ban" in the late Ming and early Qing dynasties [1], Western missionaries began to visit this thin land of our country, making the violin take root in our country, and gradually the formation of a musical art spread, deeply loved by the people [2]. Because all the existence of beauty is inseparable from the viewer, the beauty has the attributes of idealism and spirit. From this point of view, beauty is a positive and healthy psychological phenomenon that can make people feel satisfied and happy [3]. Some people say that "like is beautiful". Although this statement is not very academic, it is concise and comprehensive, and it reveals the essence of aesthetics in one sentence [4]. Cultivating students' musical aesthetic awareness is one of the basic functions of violin performance teaching [5].

Combined with the current situation of violin performance teaching, the violin has a long history as a bowed stringed instrument, and its history has a long history [6]. Violin musical instruments began to appear in the 16th century. Due to the influence of unreasonable teaching concepts and outdated teaching strategies [7], violin performance teaching did not play the function of cultivating aesthetic awareness. Therefore, it has certain practical significance to analyze the strategies of cultivating music aesthetic awareness in violin performance. In addition [8], Ma Sicong is also a violin artist with remarkable achievements in this period. His "Homesickness Song" is based on the Chinese folk song "Horse on the Wall" as the creative material, and uses the superb violin playing skills [9] at that time to express the homesickness in the hearts of wanderers who have left their hometowns. The affection of relatives is vividly performed, the style of the song is simple, and the tune is moving [10].

The continuous development of the existing mobile communication technology provides people with strong and convenient means of communication [11], and its appearance has changed our production and life style. At present, many

countries have entered the commercial stage of the second generation mobile communication system [12]. Therefore, the rapid development of wireless technology and the increasing abundance of wireless services make the existing spectrum resources increasingly tight. Current wireless networks usually employ a static spectrum allocation strategy [13]. In the cognitive radio system, "Primary User" refers to the user who is authorized to use the corresponding frequency band, and the user who is not authorized to use the corresponding frequency band is called "Cognitive User" [14]. Enjoy higher priority than cognitive users. In order to avoid cognitive users from interfering with primary users. It has irreplaceable advantages such as electrogram and ultrasound [15].

It is mainly reflected in the following aspects: First, before some diseases develop to clinical symptoms, certain abnormalities often appear in the voice [16], and early diagnosis of certain diseases may be achieved by analyzing these abnormalities. Second, the equipment for auscultation or phonogram examination is simple [17], almost all primary medical units are equipped with it, and the penetration rate is high. During this period, the first violin composition in my country, Difficulty Traveling [18], was born. It was composed by the famous geological Although it is an amateur's creation, it not only fills the blank of my country's violin music works, but also was selected as the prelude to the commemorative meeting of the 80th anniversary of the May 4th Movement of Peking University. Some people say that [19] "like is beautiful". Although this statement is not very academic, it is concise and comprehensive, and it reveals the essence of aesthetics in one sentence [20]. The so-called taste is the state that attracts people and can make people interested and willing to pay attention. The so-called aesthetic taste is the psychological process of the subject accepting and appreciating the aesthetic taste of the object [21]. Basic music knowledge is the main content of the aesthetic awareness of violin playing music. In the teaching process, students should master the rhythm and style of violin music. With the continuous [22] increase of students' mastery of basic music knowledge. After the Italian school, the Fabian school, the

German-Austrian school, and the modern Russian school were developed. After a long period of development, the violin music we know today is formed [23]. After the founding of New China, with the changes of the times and the progress of society, the development of my country's violin music art also has two outstanding progresses [24], one is my country's violin music education work, and the other is violin music creation. During this period, a group of mature violin artists have been formed in our country.

2. THE PROPOSED METHODOLOGY

2.1 The Melody Signal Cyclic Fluctuation Matching Algorithm

After the founding of New China, along with the changes of the times and the progress of society, the development of our country's violin music art has also made outstanding progress in two aspects, one is our country's violin music education, and the other is violin music creation. During this period, a group of mature violin artists have been formed in my country. "Cyclostationary signal" is defined as a signal whose statistical characteristic parameters of a certain order change periodically with time. These signals are used in systems such as communication, telemetry, radar and sonar. frequently encountered. For example, the analog communication system stops the sine wave amplitude, phase and frequency keyed signals, the amplitude, phase and frequency keyed signals in the digital communication system, and the signals generated by various periodic scanning processes in the television and radar systems.

The advantage of the cyclic spectrum detection algorithm is that it extends the traditional one-dimensional power spectral density-based signal detection method to a two-dimensional plane with two coordinate axes of frequency and cyclic frequency, and the noise and signal may be coincident in the power spectrum. , and is discrete in the cyclic spectrum, which improves the ability to distinguish and select the signal. Use the characteristic that the modulated signal has a large non-zero cyclic spectral function value when the cyclic frequency is not zero. Stationary random processes generally have time ergodic characteristics, so the numerical statistics of various orders describing the stationary process, such as mean value, correlation function, etc., are all The time-averaged (also called sample-averaged) value can be used instead of the statistical average; the general non-stationary process cannot calculate its time-varying correlation function from a single sample. The signal has multiple order statistical parameters, such as first-order, second-order, and higher-order statistics parameter.

Generally, the first-order statistical parameters are represented by the mean value, the last-order statistical parameters are represented by the correlation function, and the higher-order statistical parameters are represented by the high-order cumulant. A cyclostationary signal is defined as a signal whose first-order and second-order statistical characteristics change with time and show a certain periodicity.

2.2 The Timeliness and Aesthetics of Violin Music

The so-called "unfinished" refers to the unfinished part of the work of art. It is the blanks reserved by the artist intentionally or unintentionally in the works. These blanks have huge uncertainties and reserve a lot of imagination space for the viewers. The mysteries generated by the uncertainty of these imagined spaces will attract And stimulate the curiosity of some viewers. From the perspective of the composition of

music aesthetic awareness, compared with basic music knowledge and music appreciation ability, it is relatively difficult to cultivate students' ability to understand music culture. This ability directly affects students' appreciation of various violin works. In order to help students develop the ability to understand music culture, teachers should follow the principle of step-by-step and gradually use the violin to play. The violin was brought into China by a large number of Western missionaries in the late Ming and early Qing dynasties. According to verifiable historical records, missionary Nan Guangguo and others Emperor Kangxi on his southern tour played western music.

But at that time, it was only limited to the limited musical activities of missionaries in the court, that is, in the middle and late Baroque, the violin bowed and stringed instruments had been introduced into China, but they had not developed. This not only cultivates a new generation of talents for the development of my country's violin music art, but also gradually forms a Chinese-style development path for violin music art. In addition, a large number of violin music works with Chinese characteristics have also been released in the creation of violin music. The representative is the violin concerto "Liang Zhu" co-created by He Zhanhao and Chen Gang in 1958, which has a far-reaching influence. `After using this spectrum hole, it is still necessary to use spectrum detection technology to monitor the status of authorized users in real time. Once authorized users appear, cognitive users should exit the frequency band and continue to detect other available frequency bands to avoid interference to authorized users, such as picture.

2.3 The Timeliness and Aesthetics Evaluation System of Violin Music

Since its inception, the violin concerto "Liang Zhu" has been deeply loved by people. It has touched the hearts of countless audiences with its strong artistic appeal, beautiful and tactful musical melody, and strong and profound national style. , has become a model in the history of Chinese violin music art. The environment provides some information to the learning part of the system, the learning part uses this information to modify the knowledge base to improve the efficiency of the system to perform tasks, the execution part completes the task according to the knowledge base, and feeds back the obtained information to the learning part. In the specific application, the environment, knowledge base and execution part determine the specific content of the work, and the problem to be solved in the learning part is completely determined by the above two parts.

Since its inception, the violin concerto "Liang Zhu" has been deeply loved by people. It has touched the hearts of countless audiences with its strong artistic appeal, beautiful and tactful musical melody, and strong and profound national style. , has become a model in the history of Chinese violin music art. The quasi-periodicity of the hop is one of the physiological bases of the cyclostationary characteristic of the hop signal. From the point of view of the production system of Yeyin, Yeyin is a series of mechanical vibrations generated by the action of the blood flow of the visceral blood on the blood vessels of the melon.

3. CONCLUSIONS

Firstly, the spectrum detection technology in cognitive wireless wire is introduced, and several common detection techniques are introduced. Then, the cyclo-spectrum theory is studied in detail according to the cyclostationary characteristics of the signal. Through the above analysis, it can be seen that the cultivation of music aesthetic awareness is of great significance to the improvement of students' violin performance skills and the improvement of performance appeal. Therefore, teachers, as communicators and teachers of musical beauty, are in the process of actual violin performance.

4. REFERENCES

- [1] Wang Yiran. The Musical Aesthetics of Mozart's Violin Concerto No. 3 in G major [J]. Drama Home, 2020(21):1.
- [2] Zheng Haoyang. Musical Aesthetics in Tchaikovsky's Violin Concerto in D major [J]. Art Review, 2021.
- [3] Qing Yanyan. Research on the aesthetic taste of Bach's violin music and Serafini's illustrations [J]. Art Review, 2019(22):2.
- [4] Qing Yanyan. Research on the aesthetic taste of Bach's violin music and Serafini's illustrations [J]. 2022(22).
- [5] Hu Yuanchen. A brief analysis of the aesthetic differences between Chinese and Western violin music [J]. Art Review, 2018(4):2.
- [6] Jia Xiaocheng. A Look at the Aesthetic Trend of Chinese Violin Music Creation [J]. Music Creation, 2019(4):6.
- [7] Han Yanling. Cultivation of musical aesthetic awareness in violin performance [J]. Art Science and Technology, 2018, 31(2):1.
- [8] Zhu Ziqi. A Tribute to Nature: An Analysis of Qin Wenchen's Violin Concerto "The Line of Mountains" [D]. China Conservatory of Music, 2020.
- [9] Hu Yuanchen. A brief analysis of the aesthetic differences between Chinese and Western violin music [J]. Music Time and Space, 2018, 000(004):60-61.
- [10] Chen Haoxuan. A Brief Talk on Beethoven's Artistic Aesthetic Thought from the "Pastoral" [J]. Youth Times, 2019.
- [11] Liang Hanyan. On the Stage Psychological Construction and Aesthetic Value Remodeling of Violin Performance Art [J]. Gehai, 2018(3):3.
- [12] Yin Yilong, Liu Xiangfei, Nie Xiushan. A joint classification method and system for image aesthetic quality assessment and semantic recognition: CN112668638A[P]. 2021.
- [13] Qin Feng, Wang Xiaojun, Zeng Ang, et al. Surgical classification and aesthetic design of developmental asymmetric breasts [J]. Chinese Journal of Medical Aesthetics, 2022, 28(01):26-29.
- [14] Wu Shifeng, Han Zhengxue. Long-term aesthetic and functional evaluation of mandibular defects repaired by fibula [C]// 2019 The First National Academic Conference on Oral and Maxillofacial-Head and Neck Tumors - Convergence Leading, Collaborative Development. 2019.
- [15] Wu Biao, Xu Yanping. The Aesthetic Significance of Nationalization of Violin Music [J]. 2022(1).
- [16] Hu Yuanchen. A brief analysis of the aesthetic differences between Chinese and Western violin music [J]. 2022(4).
- [17] Wan Fengxian. On the Occurrence of Aesthetic Experience in the Process of Appreciation of Music Works—Taking the Violin Concerto "Liang Zhu" as an Example [J]. Scenic Spots, 2019(9):1.
- [18] Zhang Yifeng. Research on the connection between violin art and music aesthetics: Taking Chinese and Western violin works as an example since the 20th century [J]. Art Research: Art Journal of Harbin Normal University, 2020(5):4.
- [19] Yang Bo. Aesthetic structure and subject emotion of the bronze statue of Nie Er playing the violin [J]. 2022(7).
- [20] Huang Mengdie. An Analysis of the Creation of Ao Changqun's Violin Concerto in D minor "Motherland" [J]. Music Creation, 2020(4):5.
- [21] Wang Zhijiong. Style and Aesthetics in Baroque Music Recording—Taking Bach's Sonatas and Suites for A Cappella as an Example [J]. Journal of Tianjin Conservatory of Music, 2018(3):7.
- [22] Zhou You. Research on bowing skills in Mozart's violin music works [J]. Beauty and Times: Aesthetics (Part 2), 2020(9):4.
- [23] Niu Lin. The emotional theme and aesthetic ideal of Jiang Wenye's violin sonata "Song of Spring" [J]. Symphony: Journal of Xi'an Conservatory of Music, 2018(1):7.
- [24] Hu Hong. The aesthetic shaping of Chinese tea culture thoughts on the mood of violin players [J]. Fujian Tea, 2018(8):1.