

# Analysis of Electric Guitar Improvisation Techniques

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**Abstract:** As an important form of modern fusion music performance, electric guitar improvisation is widely praised and welcomed for its unique performance style. The main points and difficulties of its performance lie in tone switching, speed playing skills, and grasping the title, mood, and style of the music. Therefore, it is necessary to integrate the conventional techniques of string sweeping, pizzicato, and dotted strings with improvisation, applying differentiated rhythmic rhythms, timbre modulation, and special playing techniques to deepen the distinctive art-rock music characteristics.

**Keywords:** Electric guitar; Improvisation; Technique; Skills

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## 1. Introduction

Improvisation is an important expressive method and performance skill of modern popular music, as well as a form of second creation music performance, usually presenting the artistic characteristics of the musical work in a punctuated way. The requirement involves making an echoing expression according to the overall style, harmonic structure, melodic direction, and technique application of the piece, which can effectively connect the next section of the piece, which is also close to the theme of the piece. The electric guitar amplifies the acoustic effect and modulates the characteristics of various timbres, so that it can echo with orchestral music and rock music in the fusion improvisation of modern music, thus fully displaying the fascinating charm of music.

## 2. Points and difficulties of electric guitar improvisation

### 2.1. Performance points

One of the main points of electric guitar improvisation is to achieve timbre switching, to smoothly articulate the overloaded electric guitar timbre with the timbre of other musical works, and to try to achieve timbral balance in the instantaneous nodes. For example, the characteristics of the electric guitar distortion tone are mainly utilized in matching with rock music, which is used to match the strong rock rhythm and amplify the impact of the original musical work or melodic direction. It is also possible to combine the overloaded electric guitar

tone with compound rhythmic drumming, and achieve the treatment of ornamentation through improvisation, reflecting the chordal extras of the musical style. The second point is to carry out the processing of speed playing skills, especially in the wonderful speed playing section through the close cooperation of both hands to quickly change the strings, to ensure that the improvisation is smooth and fluent. For example, in the climax of the piece with the orchestral ensemble, through the fast and furious heavy metal electric guitar improvisation, with strong distortion to highlight the collision effect of different styles of music.

## **2.2. Performance difficulties**

Since improvisation is chance by necessity, the difficulty lies in how to use the electric guitar playing technique to express the mood of the music, or to integrate into the style of the work, rather than making the electric guitar tone or performance too abrupt. For example, to play the titles of the music and the sheet music, the text does not show the content, thus improvisation is done with the structure of the music, and follow the development of the melody, presenting the electric guitar tone with different plectrum plucking and playing skills, reflecting the amplitude of the ensemble or harmony with the change of tone, in order to achieve different acoustic effects, to produce coherent and smooth musical phrases, with more full and three-dimensional image of the music.

## **3. Main techniques of electric guitar improvisation**

### **3.1. Rhythmic movement techniques**

Utilizing the electric guitar to amplify the diversity and richness of a work begins with considering the rhythmic movement techniques that can be applied to the electric guitar in terms of improvisation, incorporating them into the formal and connotative aspects of expressing different musical works.

Firstly, the string pointing technique is applied. Its main focus is to hammer the strings with the fingers to hit the pinwheel to make a sound, rather than plucking or sweeping the strings. As one of the conventional forms of articulation, it is characterized by the use of acoustics and effects to produce a percussive sound. When strumming, the forearm drives the wrist, and the fingers strike the string vertically to produce the sound, so as to achieve the effect of multiple sounds on one string. In improvisation, it is mainly used to complete a large span of improvisation, for example, according to the live effect or performance needs, pressing the string to change the string length can present different pitches. The right hand can be used to hit the tone that the left hand cannot reach, to achieve the continuation and expansion of the sound. It is also possible to play decomposed chords with compound dotted strings, which can also expand the range of the left hand, and improvise a fast and smooth effect <sup>[1]</sup>. Secondly, the plectrum technique is adjusted. Plectrum is an important tool for playing electric guitar, before improvisation, different materials of the plectrum can be prepared, including soft and hard, thick and thin, the use of the plectrum's strength and speed, and the way the plectrum is gripped are controlled when playing, to produce different tones. For example, a larger area of the plectrum can be held to make the sound more precise and thinner, or a smaller part of the plectrum can be held to achieve the purpose of harmonization by touching the strings in a flexible way. Thirdly, the technique of sweeping the strings can be adjusted. Sweeping is one of the more common techniques in electric guitar playing, in which the right hand is relaxed, and the strings are swept alternately by the thumb, the index, and ring fingers, and the thumb and index finger, to give a more enthusiastic and infectious playing effect. When improvising with an impassioned piece of music, the thumb can be used to sweep the strings and bend the fingers of the right hand naturally to present a full and complete sound. During the process, improvisation can also be done with the little finger hitting the panel, through a richer layer of playing skills to complete a more powerful and infectious performance. Moreover, pushing the strings is another movement technique. Pushing the strings with the fingers

other than the left thumb, blending it with vibrato, and pushing one tone to another, can make the performance more unique and sound more comfortable. The process increases finger strength and string tension to improve the tone, but the position of the note on the fret remains the same. When improvising, the whole process of pushing the tone is visualized, connecting the two parts of the bridge together like a bridge, to prevent slippage problems. The little finger can also be added to the string pushing, forming a tacit understanding with the other fingers to produce a musical atmosphere that is either wailing or urgent. Lastly, the crank technique can be used flexibly to better utilize the advantages of the linkage to change the pitch of the electric guitar and produce the vibrato effect. When playing, single and double rocking techniques can be used respectively, the string tension is changed by pressing a lever with the hand, and musical effects such as swooping, vibrato, hissing, etc. are presented with relatively rough special playing techniques<sup>[2]</sup>.

### **3.2. Tone modulation techniques**

Electric guitar improvisation also requires modulation of the tone corresponding to different techniques. When modulating, effects and speaker amplifiers can be utilized to enhance the infectiousness of the sound, so that both the lead and accompaniment can bring different effects. For example, when improvising with funk and jazz, the electric guitar pickup can be turned up to a position where the lows and mids are boosted, but the highs are attenuated, giving way to high melodic voices. An electric guitar clean tone is used to handle midrange funk cleans while playing, with a bright high frequency added in the midrange position. For a more natural and comfortable improvisation, the midrange frequencies can be gradually attenuated to give the electric guitar a grainier tone and a relatively colorful sound. To present rock music tone, a lot of gain can be added to the sound signal, with sonic signal saturation, non-linear amplification, and distortion of the timbre characteristics. However, it is not recommended to use a midrange pickup, to prevent the occurrence of high-frequency sound section of the abnormal harshness of the situation. In contrast, the use of up-range or down-range pickups can better increase the explosive power of improvisation accompaniment, to promote the mood of the music.

Alternatively, one needs to understand the harmonic requirements for performing improvisation and choose the appropriate scales. For example, major triads are more likely to have relatively natural major scales and full scales, while minor triads are more likely to have Dorian scales, harmonic minor scales, or minor seventh chords, and major sixths, minor sixths, and so on each have their own major scales and modes. The musical style that goes with these harmonies is finding the fifth chord of each chord in the key, and then merging the two tones together. At the same time, the harmonization of the passing tones, and the addition of appoggiaturas and stops, can be used to achieve a better result.

If the electric guitar improvisation is primarily for accompaniment, it can also take into account the established characteristics of different music and incorporate elements that demonstrate the style of such music. For example, the Latin music element of two-four beat syncopation is added to rock music to modify the changing sound. Another example is the sixteenth note funk music in groups of four is used as the basis for improvisation accompaniment, with the left hand muffled, and the right-hand plectrum sweeping up and down the strings to create a ghostly sound that enhances the texture of the music, three-dimensionality, and a sense of rhythmic movement. If necessary, using paused and rested notes to create a strong and weak shift playing effect can reflect a stronger electronic music mode with direct rhythm.

### **3.3. Special performance styles**

As music develops, electric guitar playing techniques are also being innovated, and some special playing styles can be applied in order to create ever-changing tones or effects during improvisation.

Firstly, the talk-box can be controlled by the mouth as an effect device, the principle is to turn itself into a mono speaker, the sound speaker is put into the hose with soundproof treatment, the sound from the speaker is transmitted to the hose, the user uses the other end to contain in the mouth, then the sound will resonate in the oral cavity and transmit to the outside world, the player changing the shape of the oral cavity will also change the sound. This special playing mode is more fusion, and more suitable for rock, electronic, and funk music, it can provide the guitarist with more opportunities to express themselves in improvisation and secondary music creation. For example, alternating and contrasting the strengths and weaknesses of the main and secondary melodies in a musical hierarchy, or adding a double-tonguing form of electric guitar improvisation accompaniment, also make it easier for the guitarist to listen to the other instrumental parts, and to balance the volume through synthesized playing.

Secondly, it is possible to improvise using a handheld wireless acoustic effector, the EBow. Initially, it was mainly used for reproduction and enhancement of original music Artificial Intelligence (AI) sections, characterized by notes with no head, and the entire tone is long and beautiful. In improvisation, guitarists can use the EBow as a bow for electronic stringed instruments to give the guitar a stringed sound. For example, holding the EBow in the right hand and gradually approaching the strings to produce sound, the guitarist can flexibly change the position of the pickup according to the sound changes to imitate the sound of a cello, violin, trumpet, and so on. When there are other performance needs, the volume can also be adjusted with different parameters of the effector to create an exclusive and characteristic sound symbol<sup>[3]</sup>.

Thirdly, some special sounds can be preset. According to the actual situation of playing or the feedback of the audience, the designed motorcycle starting sound, horse sound, hoof sound, seagulls, bells, raindrops, etc., can be flexibly applied. Moreover, natural overtones, rocking the lever, or slowly scraping a string with a plectrum, plucking each string behind the saddle, pointing the higher octave of the played tone, pushing the strings behind the saddle, as well as triggering the overtones through the palms of the hands, and releasing and pushing the strings slowly after triggering can be done in the performance. All of the above are ways to use electric guitar playing techniques to stimulate musical emotion in a live audience, to achieve improvisational interaction and emotional resonance through improvisation.

## 4. Conclusion

Electric guitar improvisation is one of the most common forms of modern fusion music performance, and practical observation also shows that this form has a positive influence and role in setting the atmosphere of the performance and conveying the emotion and attitude of the work. Guitarists should explore different ways of improvisation on top of playing well, such as flexibly changing the basic pizzicato fingerings, adjusting the strength and area of the plectrum, paying attention to the changes of the live performance in terms of tone, rhythm, and the audience's mood, etc., and achieving the multi-faceted dialogue between human beings and the arts with the ergonomics music.

## Disclosure statement

The author declares no conflicts of interest.

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