The harmonic spectrum is different. The effect is different. The effect is different.

In switching conduction, compare with bipolar PWM: $V_{dc} = V_{bus}$.

$P_A = 0 = N N_A$ on and $-V_L$: $V_{RA} > V_{LA}$

$P_A = 0 = N N_A$ on and $V_L$: $V_{RA} < V_{LA}$

$P_A = 0 = N N_A$ on and $V_L$: $V_{RA} > V_{LA}$

$P_A = 0 = N N_A$ on and $V_L$: $V_{RA} < V_{LA}$

AC Bridge or Full Bridge

Unipolar PWM

are not switched simultaneously.
Volt age Control

Amplitude Versus Modulation Index

For sufficiently low values of ma

Strict requirements for harmonic distortion

Amplitude Versus Modulation Index

Regardless of m.a.
The envelope which is linearly proportional to the amplitude does not vary linearly as compared with $m > 1$.

Many harmonics in the spectra result in the amplitude of the sidebands. The amplitude of the signal beyond $t$ to increase the amplitude are increased.

$\frac{m^2}{2} \approx 1$ : Overmodulation

Corresponding sinusoidal wave in the linear previous case assessed that $m = 5$.
current control of the single-phase H-Bridge Inverter

In applications such as dc- and ac-motor drives, it is the motor current (supplied by the inverter or converter) that needs to be controlled. The most popular method of current control is based on "Tolerance Band control" or "Hysteresis Band control". This is illustrated in Fig. 1 for a sinusoidal reference current \( i_{\text{ref}} \), where the actual output current \( i_o \) is compared with the tolerance band around the reference current \( i_{\text{ref}} \). If the actual current tries to go beyond the upper tolerance band, \( TA^- \) is turned on (i.e., \( TA^+ \) is turned off). The opposite switching occurs if the actual current tries to go below the lower tolerance band.
In current control:

If \( (i_0^{\text{ref}} - i_0 = e) > h \) \( \Rightarrow \) \( TA^- \& TB^+ : on \)
\( TA^+ \& TB^- : off \)

If \( (i_0^{\text{ref}} - i_0 = e) < -h \) \( \Rightarrow \) \( TA^+ \& TB^- : on \)
\( TA^- \& TB^+ : off \)

When \( TA^+ \& TB^- : off \) and \( TA^- \& TB^+ : on \)
\( \Rightarrow \frac{Ldi_0}{dt} + i_0R = -V_{dc} \Rightarrow i_0 \text{ decreases.} \)

When \( TA^+ \& TB^- : on \) and \( TA^- \& TB^+ : off \)
\( \Rightarrow \frac{Ldi_0}{dt} + i_0R = V_{dc} \Rightarrow i_0 \text{ increases.} \)
In current control, the switching frequency depends on $h$. Also, the load. $\Rightarrow$ The switching frequency is variable.

The current ripple depends on $h$.

The slope of change of the current within the tolerance band depends on the nature of load (resistive or inductive). $\Rightarrow$

Since the switching happens at the points the load current exceeds the tolerance band (depends on slope) $\Rightarrow$ Switching frequency depends on the load as well. We adjust the range of switching frequency by $h$.