

## The Mach Reflection of Weak Shocks

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We present numerical solutions of the steady and unsteady transonic small disturbance equations that describe the Mach reflection of weak shock waves. The solutions contain a complex structure consisting of a sequence of triple points and tiny supersonic patches directly behind the leading triple point, formed by the reflection of weak shocks and expansion waves between the sonic line and the Mach shock. The presence of a supersonic patch and an expansion fan at each triple point resolves the 'von Neumann triple point paradox', as was suggested by Guderley. The numerical results and theoretical considerations suggest that there is an infinite sequence of triple points in an inviscid weak shock Mach reflection.

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