Stability of Weak Oblique Shock Front

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When a stationary supersonic flow passes a wedge with its angle less than a critical value, there will be a shock front attached at the head of the wedge. According to the Rankine-Hugoniot condition and the entropy condition two shocks are possibly appeared. However, only one of them is physically admissible. By the analysis of the formation and the global construction of shock and the asymptotic behaviour of the same supersonic flow passing a modified wall we find that only the weak one is stable. Therefore, the stability can be applied to single out a physically reasonable solution together with the entropy condition.