

WEAK-SHOCK REFLECTION FACTORS

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Ernst Mach (1838 - 1916) was the first to discover an irregular reflection phenomenon of shock waves, as is well known in our community. In fact, this occurred in 1875--three years earlier than usually assumed in the literature [1]. However, it is correct that Mach gave the physical interpretation of this phenomenon in 1878 [2].

Since Mach's discovery of an irregular shock reflection pattern some 118 years ago, new shock configurations have been discovered--one of the most recent examples is the so-called "von Neumann reflection" for weak shocks as reported by Colella and Henderson in 1990 [3]. Due to active research efforts related to shock reflection, especially in the last two decades, we now have a relatively detailed understanding of reflection phenomena and of transition conditions from one reflection configuration to another.

The purpose of this paper is to compare reflection factors for weak shocks from various surfaces, and to focus attention on some unsolved questions.