IONIZING BLAST WAVES IN A DUSTY GAS PART I: THEORY

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The propagation of strong shock and blast waves in nature usually results in a high-temperature two-phase gas-dust flow. in order to understand the effect of the dust on the flow field which develops behind such strong shocks, the conservation equations for a suspension composed of an ionized monatomic gas and small dust particles were formulated. The equations were then solved numerically. The solution indicates that the presence of the dust has a significant effect on the post-shock flow properties.