APPENDIX C: THE TYPICAL REFLECTORS AND CRITICAL CONDITIONS OF DIFFERENT EXPLOSION PHENOMENA NEAR NON-FLAT REFLECTING SURFACES

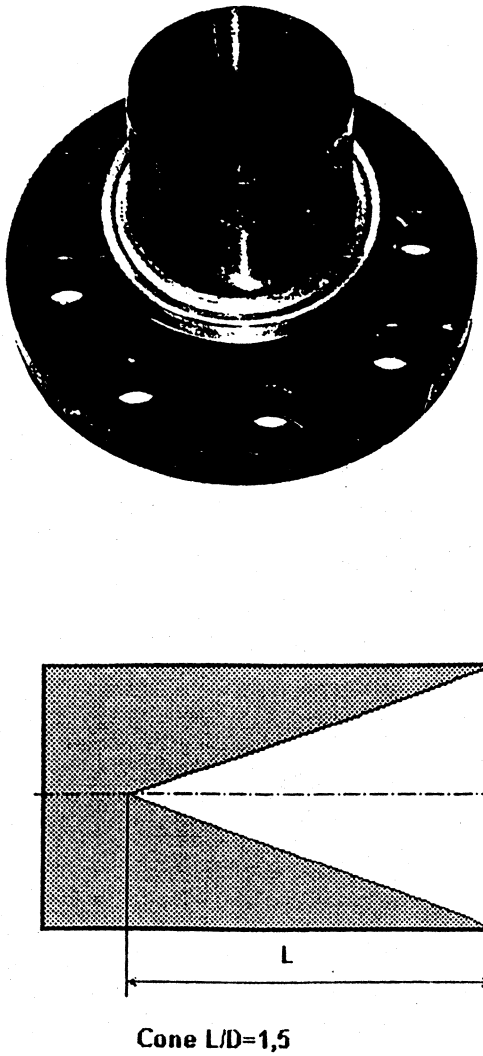
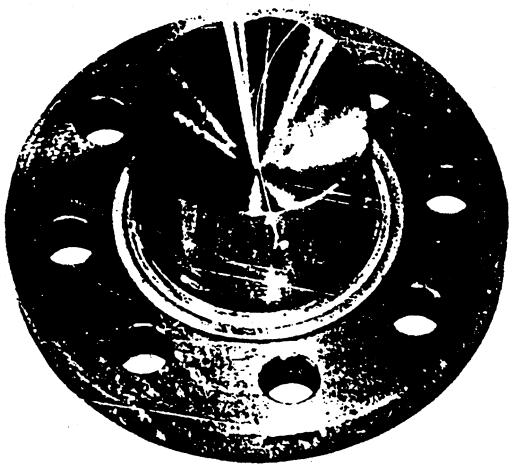
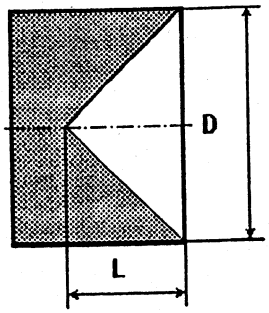


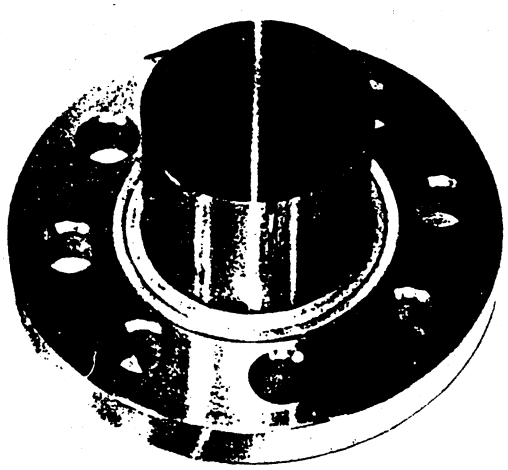
Figure C.3.1(a) Photograph and chart of the conical reflector with L/D = 1.5





Cone L/D=0,5

Figure C.3.1(b) Photograph and chart of the conical reflector with L/D = 0.5



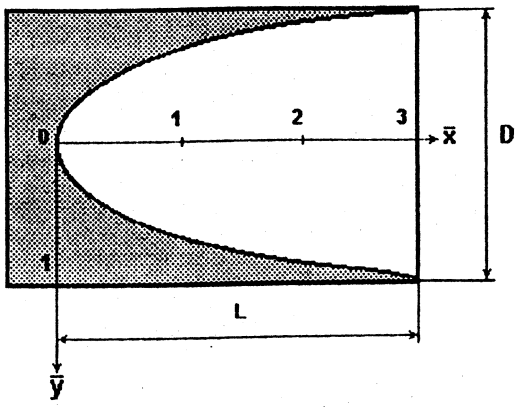
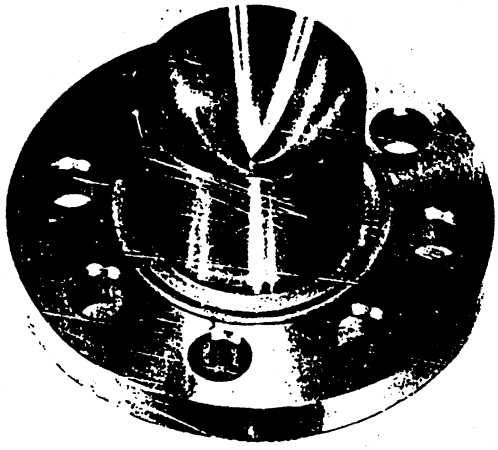


Figure C.3.1(c) Photograph and chart of the parabolic reflector with L/D = 1.5



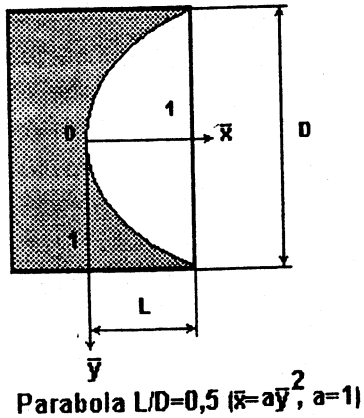
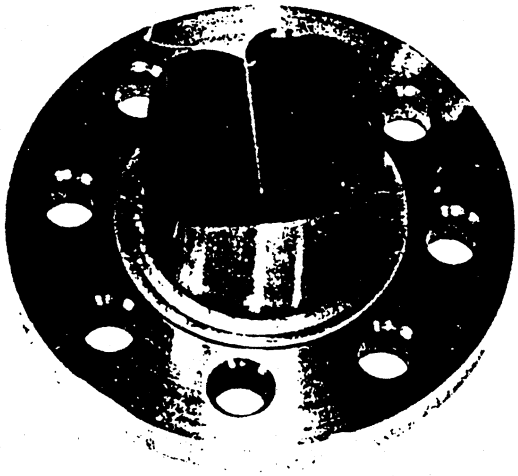
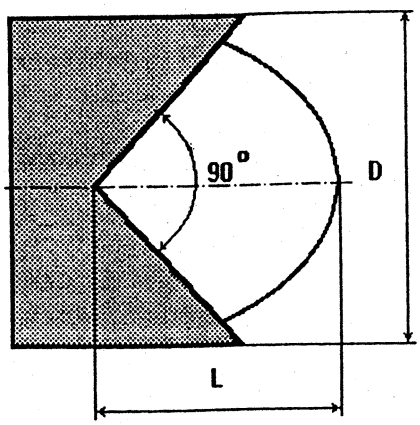


Figure C.3.1(d) Photograph and chart of the parabolic reflector with L/D = 0.5





Pyramid L/D=0,7

Figure C.3.1(e) Photograph and chart of the pyramidal reflector with L/D = 0.7

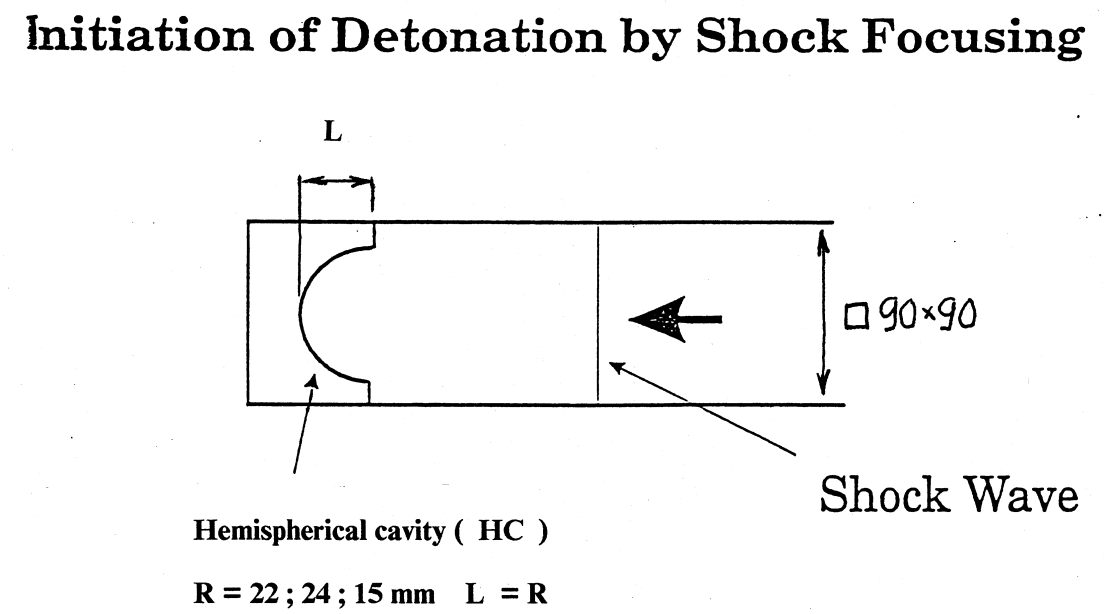


Figure C.3.1 (f) The chart of spherical reflector in [8]

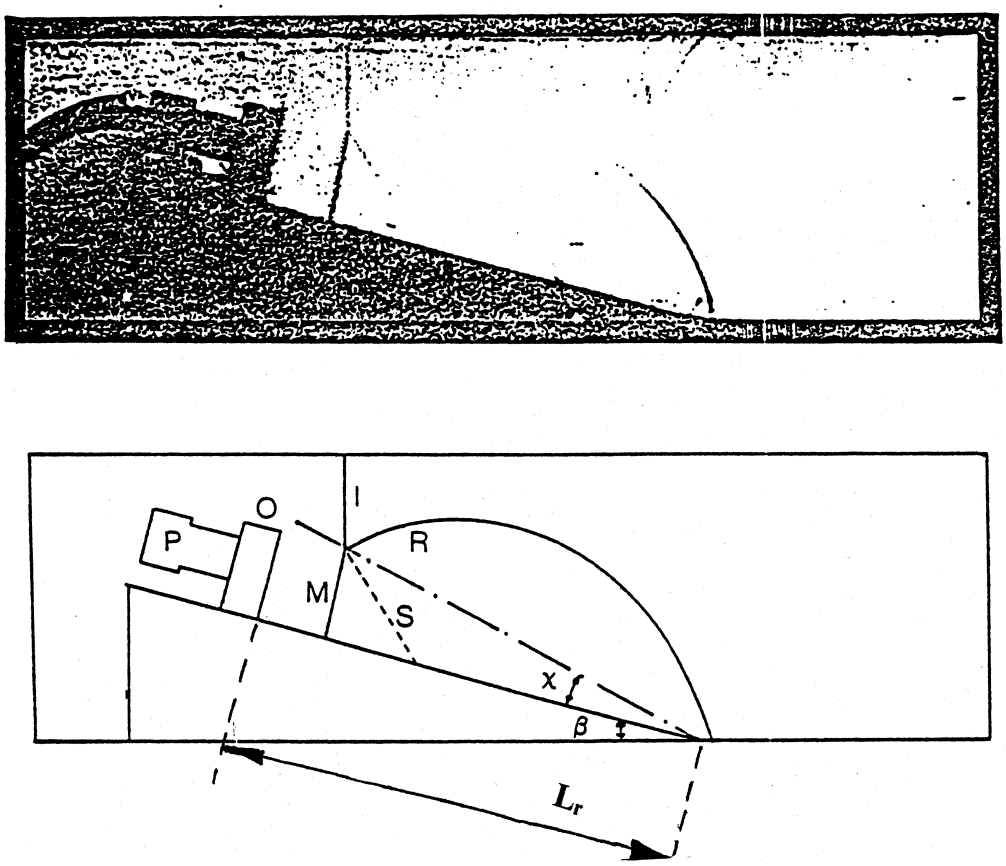


Figure C.3.2 The chart of wedge reflector in [6, 8].

I – incident shock, M – Mach steam, R – reflected shock, S – slip line, O – obstacle,

P – pressure gauge, $\beta = 0^0, 15^0, 30^0, 45^0$, $L_r = 12.7 \div 60$mm

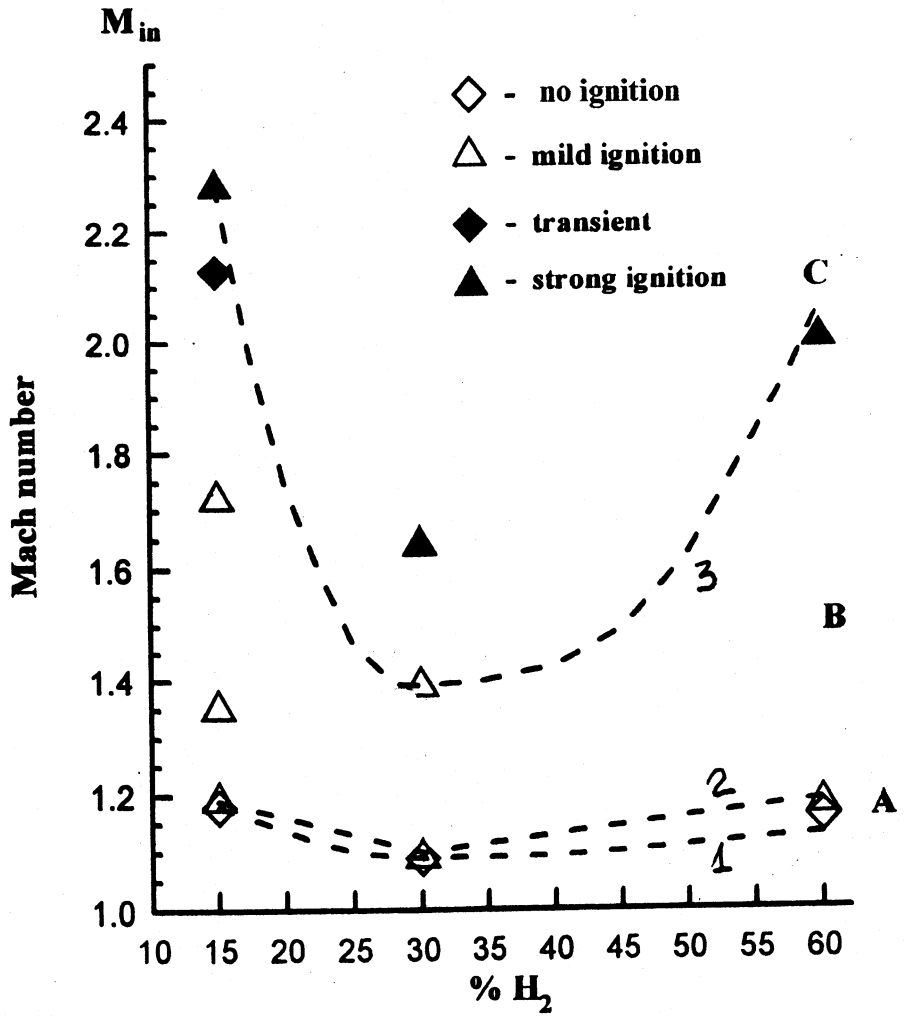


Figure C.3.3(a) The incident shock Mach numbers corresponding various modes of the selfignition vs. hydrogen-air mixture composition. Reflector Parabola L/D = 1.5. The curves 1, 2, 3 and regions A, B, C correspond to Figure 16 for the reflector Cone L/D = 1.5.

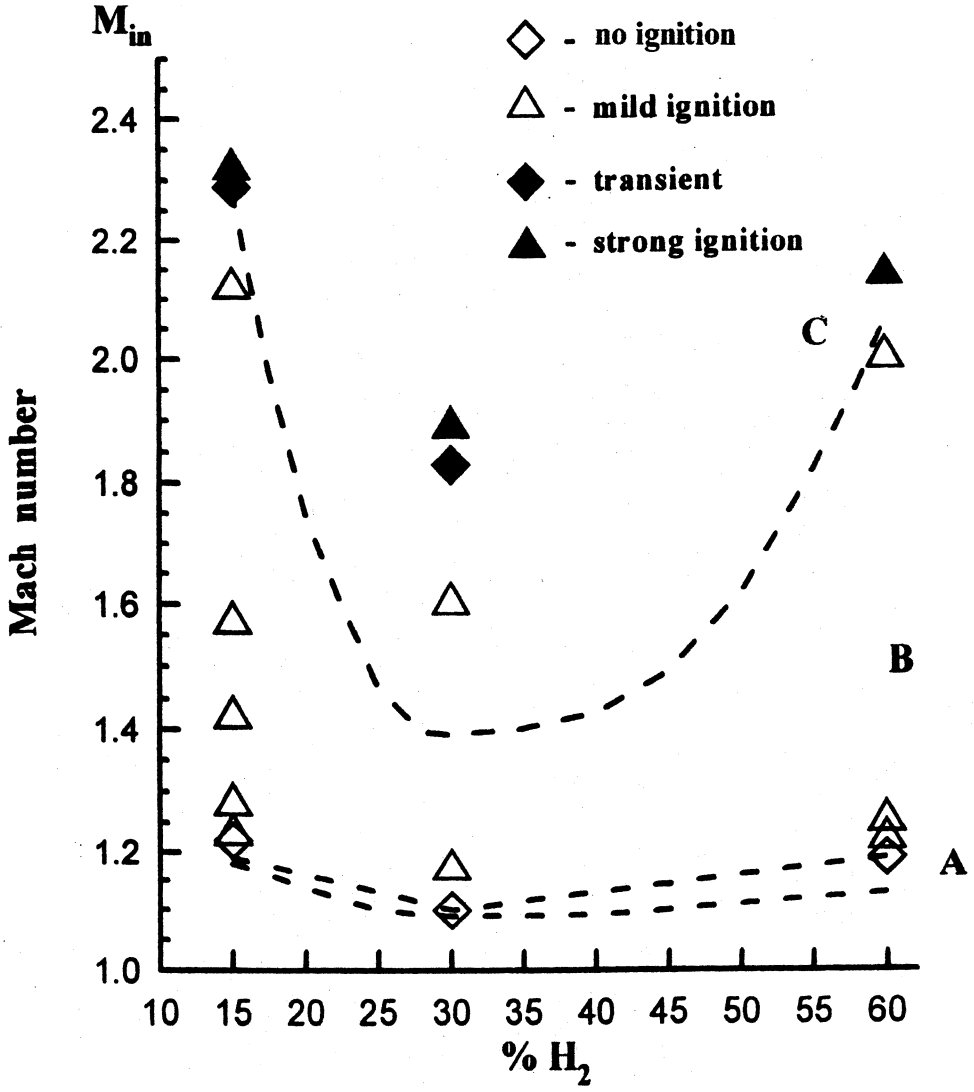


Figure C.3.3(b) The incident shock Mach numbers corresponding various modes of the self-ignition vs. hydrogen-air mixture composition. Reflector Cone L/D = 0.5. The curves 1, 2, 3 and regions A, B, C correspond to Figure 16 for the reflector Cone L/D = 1.5.

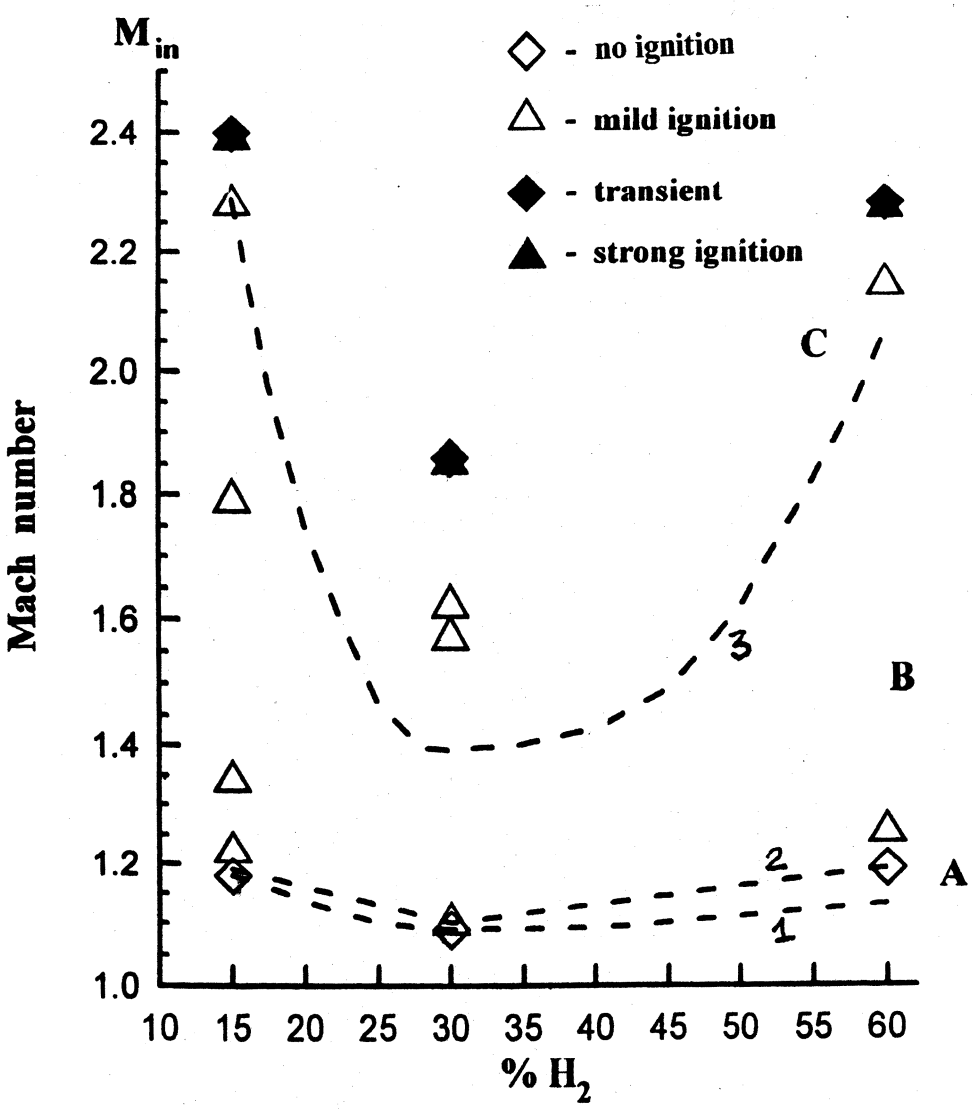


Figure C.3.3(c) The incident shock Mach numbers corresponding various modes of the self-ignition vs. hydrogen-air mixture composition. Reflector Parabola L/D = 0.5. The curves 1, 2, 3 and regions A, B, C correspond to Figure 16 for the reflector Cone L/D = 1.5.

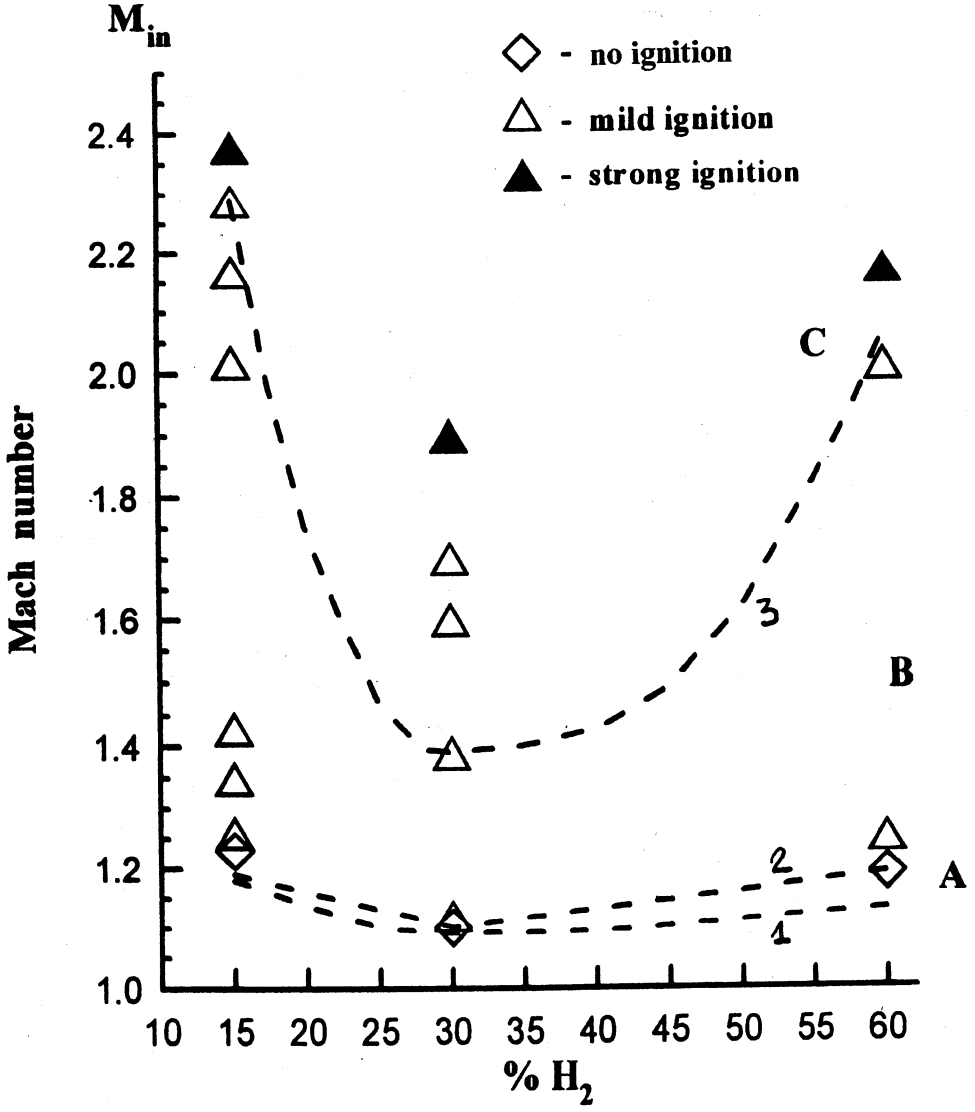


Figure C.3.3(d) The incident shock Mach numbers corresponding various modes of the self-ignition vs. hydrogen-air mixture composition. Reflector Pyramid L/D = 0.5. The curves 1, 2, 3 and regions A, B, C correspond to Figure 16 for the reflector Cone L/D = 1.5.

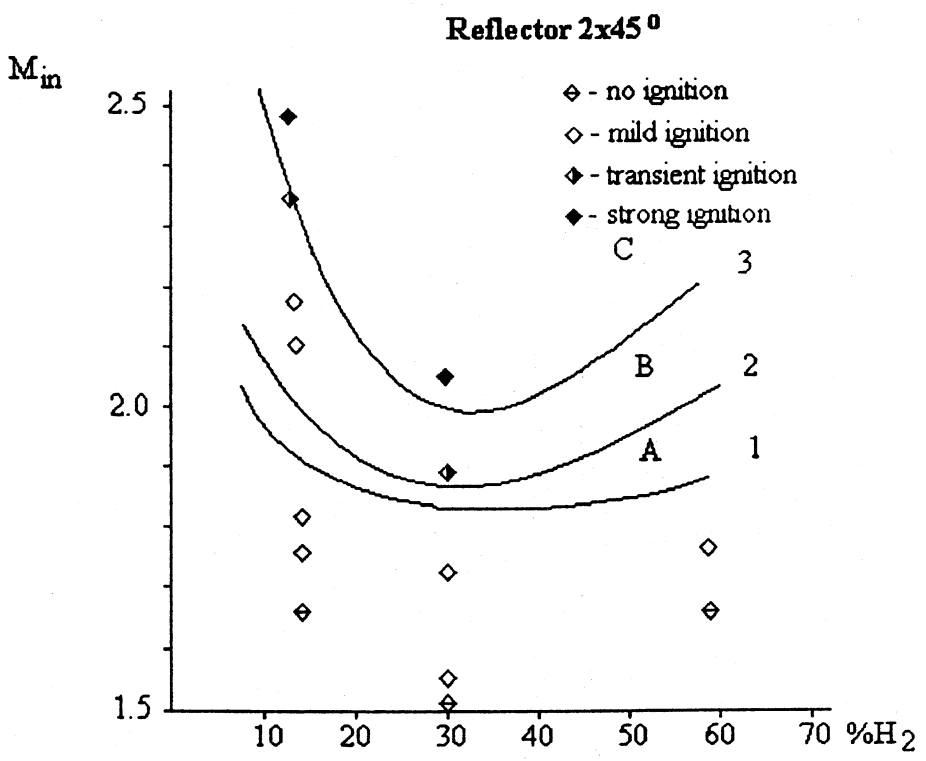


Figure C . 3 . 4(a) The critical incident shock Mach number vs. the H_2-air mixture composition, reflector 2 x 45^0. The regions A, B and C, and the curves 1, 2 and 3 correspond to Figure 22 for reflector R17.

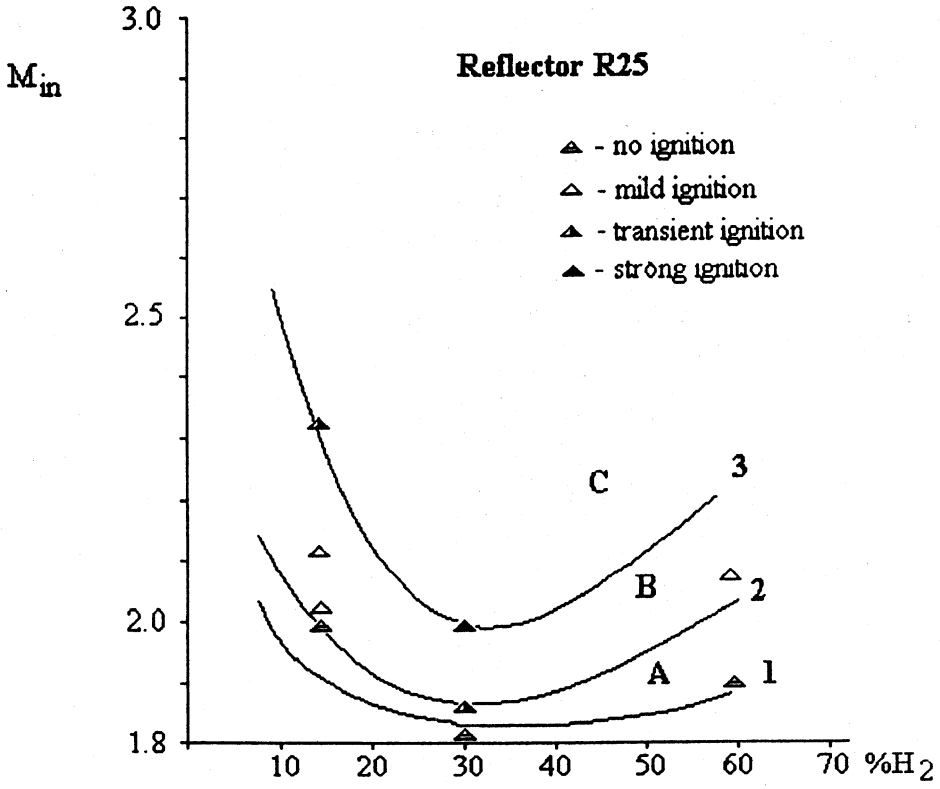


Figure C . 3 . 4(a) The critical incident shock Mach number vs. the H_2-air mixture composition, reflector R25. The regions A, B and C, and the curves 1, 2 and 3 correspond to Figure 22 for reflector R17.

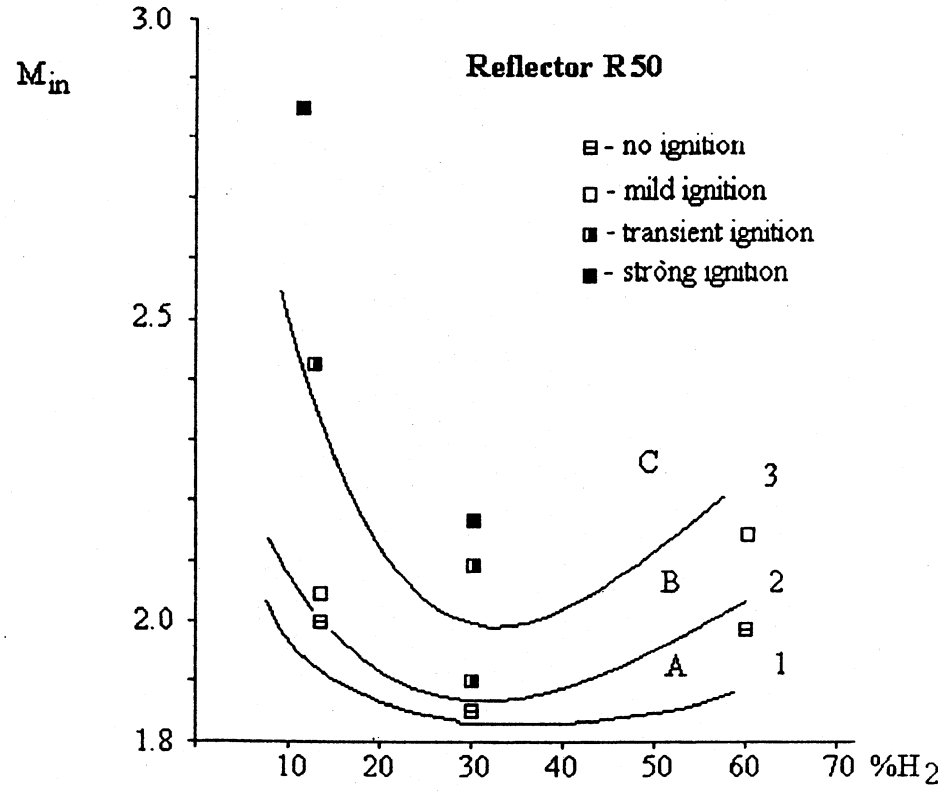


Figure C .3.4(a) The critical incident shock Mach number vs. the H_2-air mixture composition, reflector R50. The regions A, B and C, and the curves 1, 2 and 3 correspond to Figure 22 for reflector R17.