預混火焰聲波振盪之研究

This paper describes results of an experimental study of sound wave generation by a premixed flame stabilized on the sidewall of a long rectangular duct. This flame-driven oscillations were investigated at different equivalence ratios. These studies reveal that pressure oscillations were observed only with the flame stabilized very close to the burner surface and only at certain equivalence ratios. No oscillation was observed in the fuel rich side. In addition, the frequencies of these excited pressure oscillations depend upon the equivalence ratios, and in most tests, "beats " were observed. The main excited frequencies decrease as the equivalence ratios decrease, and, however, most of them are close to the harmonics of the experimental tube.