Numerical simulation of turbulent burning velocity of \ce{CH4/H2/air} flame using LES/FGM approach MASAYA MUTO, HIROAKI NAGAI, RYOICHI KUROSE, Kyoto University, FUMITERU AKAMATSU, Osaka University, KEI INOUE, Mitsubishi Heavy Industries, Ltd., KENJI MIYAMOTO, Mitsubishi Hitachi Power Systems, Ltd. — The turbulent burning velocity, \( s_T \), of hydrogen/methane/air mixture is numerically investigated by large-eddy simulation (LES) with flamelet generated manifold (FGM) method of turbulent jet flow. Volume ratio of the hydrogen/methane in the mixture, \( \alpha \) is varied from 0 to 0.6 for the ambient pressure range of \( P = 0.1 \text{ to } 0.9 \) MPa. Equivalence ratio of the mixture is fixed to be unity. The results show that the ratio of \( s_T \) to laminar burning velocity \( s_L \), \( s_T/s_L \) increases with increasing \( \alpha \) and \( P \). This is considered to be due to the facts that \( s_L \) decreases with increasing \( P \), and that the flame thickness decreases with increasing \( \alpha \) and \( P \), which causes to increase the surface area of flame sheet.