HP: $0.85\text{CH}_4 + 0.1\text{C}_2\text{H}_6 + 0.05\text{CO}_2 + \frac{2.05}{\phi}(3.73\text{N}_2 + \text{O}_2 + 0.0447\text{Ar} + 0.00152\text{CO}_2)$ $\begin{array}{c} 0.24 \\ 0.22 \end{array}$ 2000 $T \; [{\rm K}]$ -500 1500 0.18 **○** 0.16 1000 -1000 3 3 ϕ $\times 10^4$ -500 $c_p \, [\mathrm{kJ/kg-K}]$ $g~[\mathrm{kJ/kg}]$ -1.5 -1000 -1500 3 2 3 3 1.3 900 s [kJ/kg-K]a [m/s] 800 10 1.2 700 3 2