

TEMA 28 - Combustão**COB306 TERMOQUÍMICA DOS PRODUTOS DE COMBUSTÃO UTILIZANDO PROPRIEDADES TERMODINÂMICAS OBTIDAS DA MECÂNICA ESTATÍSTICA / TERMOCHEMICAL OF COMBUSTION PRODUCTS USING THERMODYNAMIC PROPERTIES OBTAINED OF STATISTICAL MECHANICS****Carlos Alberto Rocha Pimentel***Instituto de Engenharia Aeronáutica - IEA, Instituto Tecnológico de Aeronáutica - ITA
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This work presents the results of an analytical model and a computer program to obtain thermochemical properties of combustion products in a liquid rocket motors, using the method of statistical mechanic to calculation thermodynamic properties of the species. The equations of statistical mechanics and the technique of minimization of Gibbs free energy are used to calculate the thermochemical functions and the equilibrium chemical composition. These methods are applied to the calculation of equilibrium properties of the combustion products in liquid rocket motors for different propellant pairs, O/F ratios and chamber pressures. The results obtained from this method are compared to those of NASA SP-273.

Keywords: *Combustion products - equilibrium chemical composition - statistical mechanics - minimization of Gibbs free energy - liquid fuel / Produtos de combustão - Composição em equilíbrio químico - Mecânica estatística - Minimização da energia livre de Gibbs - Combustível líquido*

COB323 INCINERAÇÃO DE RESÍDUOS SÓLIDOS DE SERVIÇOS DE SAÚDE UTILIZANDO O BIOGÁS DE ATERROS SANITÁRIOS / MEDICAL WASTES INCINERATION WITH UTILIZATION OF THE BIOGAS GENERATED FROM SANITARY LANDFILLS**Celso Luiz da Silva***Departamento de Engenharia Mecânica, FET / UNESP - Bauru/BR - E-mail: celsos@azul.bauru.unesp.br***Enric Velo***Departamento de Máquinas y Motores Térmicos, ETSEIB / UPC - Barcelona/ES
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This paper takes consideration about the utilisation of the biogas generated from sanitary landfills as a support energy source on medical wastes incineration processes. The data from similar incinerators currently operating in Brazilian cities and data bibliography has used. The results of the present study shows the volume of the biogas necessary for operating system as function of the habitants number.

Keywords: *Incineração - Biogás - Resíduos - Combustão - Energia - Incineration - Medical Wastes - Combustion - Energy*