



Home About Us Contact Us View Cart My Account FAQ

username

LOGIN

New Account »
Forgot Password?

clouds



Advanced Search »

Ads by Google

[Spacecraft Thermal Ctrl](#)

Aerospace Seminar for Engineers Starts 31 Mar 2009
www.aiaa.org

[US Army - Official Site](#)

Earn \$2,000 when you refer someone to the Army. Details inside!
www.army.mil

[Deep Discounts on Rockets](#)

Estes, Aerotech, Quest and more Very low prices on all major brands
www.a2zhobbies.com

[Model Rocket Engines](#)

Search multiple engines for model rocket engines
www.webcrawler.com



Environmental Engineering ▾ Air Pollution and Control

An Investigation of Plume Rise from Titan IV Rocket Launches

Authors: [Joseph D. Brands](#); [AIR FORCE INST OF TECH WRIGHT-PATTERSONAFB OH](#)

Abstract: Space launches at Cape Canaveral Air Station (CCAS) and Vandenberg Air Force Base (vAFB) produce exhaust ground **clouds** from the solid rocket boosters and liquid hypergolic fuels containing several toxic substances. In order to estimate the health effects that would be imposed upon the public by scheduled launches, range safety officials rely on the Rocket Exhaust Effluent Diffusion Model to predict ground level concentrations of these substances. A drawback to the REEDM is its underprediction of the initial ground **clouds** stabilization height. This underprediction causes an overprediction of the ground level toxic substance concentrations. This thesis focused on increasing the accuracy of the **clouds** stabilization height. Therefore, a model was developed incorporating conservation principles of volume, momentum, and buoyancy to predict stabilization height values. As part of the model a predictive function for the coefficient of entrainment was developed based on meteorological conditions. This rate of entrainment is a critical factor in accurately predicting the rise behavior of ground exhaust **clouds**.

Limitations: APPROVED FOR PUBLIC RELEASE
Description: Master's thesis
Pages: 193
Report Date: DEC 97
Report Number: A753433



Keywords relating to this report:

- ✦ [AIR FORCE FACILITIES](#)
- ✦ [AIR POLLUTION](#)
- ✦ [BOOSTER ROCKET ENGINES](#)
- ✦ [ENTRAINMENT](#)
- ✦ [EXHAUST PLUMES](#)
- ✦ [HYPERGOLIC FUELS](#)
- ✦ [LAUNCH VEHICLES](#)
- ✦ [LAUNCHING SITES](#)
- ✦ [ROCKET EXHAUST](#)
- ✦ [SOLID PROPELLANT ROCKET ENGINES](#)
- ✦ [THESES](#)
- ✦ [TOXIC HAZARDS](#)
- ✦ [TOXICITY](#)

Adobe PDF - \$34.95

Printed Format - \$57.95

ADD TO CART

Please check the box for the format you wish to order.

[Shipping Terms](#)
[About Electronic Delivery](#)

[Email This Abstract](#)

[« Back to search](#)

[Home](#) | [About Us](#) | [Contact Us](#) | [View Cart](#) | [Customer Service](#) | [Shipping Terms](#) | [Advanced Search](#) | [Privacy Policy](#) | [Restrictions on PDF Usage](#)

© 2001-2008 Storming Media LLC. All rights reserved.