

FINAL REPORT

- Project Title:** Acoustic Separation Technology
- Covering Period:** March 1, 2000 through August 30, 2001
- Date of Report:** February 22, 2002
- Recipient:** Institute of Paper Science and Technology (IPST)
500 10th St, NW
Atlanta, GA 30318
- Acknowledgement:** This material is based upon work supported by the U.S. Department of Energy under Award no. DE-FC07-97ID13553.
- Award Number:** DE-FC07-97ID13553
- Disclaimer:** Any opinions, findings, and conclusions or recommendations expressed in this material are those of the authors and do not necessarily reflect the views of the Department of Energy.
- Subcontractors:** None
- Other Partners:** IPST member companies, SP Newsprint
- Principal Investigators:**
Fred Ahrens (404-894-6496) fred.ahrens@ipst.edu and Tim Patterson (404-894-4797) tim.patterson@ipst.edu
- Project Team:** Valri Robinson (DOE-HQ), David Robertson (DOE-Idaho), David Friedman (AF&PA), Recycle Task Group, Serelia Woods (IPST)/Marsha Gill (IPST)
- Project Objective:** The overall objectives are:
- To perform a mill demonstration of ultrasonic whitewater clarification using Acoustic Separation Technology (AST)
 - To evaluate the economics and commercialization potential of AST-based whitewater clarification

Executive Summary:

Today's restrictive environmental regulations encourage paper mills to close their water systems. Closed water systems increase the level of contaminants significantly. Accumulations of solid suspensions are detrimental to both the papermaking process and the final products. To remove these solids, technologies such as flotation using dissolved air (DAF), centrifuging, and screening have been developed. Dissolved Air Flotation systems are commonly used to clarify whitewater. These passive systems use high pressure to dissolve air into whitewater. When the pressure is released, air micro-bubbles form and attach themselves