ellipse with the Sun at the focus; and (3) the
arrival phase, in which the two bodies are
the target planet and the spacecraft,
where the trajectory is an arrival hyper-
bola with the planet as the focus.

This work was done by Brooke Anderson
Park and Henry Wright of Langley Research
Center. Further information is contained in a
TSP (see page 1), LAR-17446-1

Ring Image Analyzer

Ring Image Analyzer software analyzes
images to recognize elliptical patterns. It
determines the ellipse parameters (axes
tility, centroid coordinate, tilt angle).
The program attempts to recognize el-

Interferometric analysis of precision-ma-
chined surfaces remains an important
technological instrument in hardware de-
velopment and quality analysis. This soft-
ware automates and increases the accuracy
of this technique. The software has been
developed for the needs of an R&T-
d-funded project and has become an impor-
tant asset for the future research proposal
to NASA as well as other agencies.

This work was done by Dmitry V. Strekalov of
Caltech for NASA’s Jet Propulsion Laboratory.
Further information is contained in a TSP
(see page 1). This software is available for com-
mercial licensing. Please contact Daniel Broder-
ick of the California Institute of Technol-
ogy at danielb@caltech.edu. Refer to
NPO-47579.

SureTrak Probability of
Impact Display

The SureTrak Probability of Impact Dis-
play software was developed for use during
rocket launch operations. The software
displays probability of impact information
for each ship near the hazardous area dur-
ing the time immediately preceding the
launch of an unguided vehicle.

Wallops range safety officers need to be
sure that the risk to humans is below a cer-
tain threshold during each use of the Wal-
lops Flight Facility Launch Range. Under
the variable conditions that can exist at
launch time, the decision to launch must
be made in a timely manner to ensure a
successful mission while not exceeding
those risk criteria. Range safety officers
need a tool that can give them the needed
probability of impact information quickly,
and in a format that is clearly understand-
able. This application is meant to fill that
need.

The software is a reuse of part of soft-
ware developed for an earlier project:
Ship Surveillance Software System (S4).
The S4 project was written in C++ using
Microsoft Visual Studio 6. The data
structures and dialog templates from it
were copied into a new application that
calls the implementation of the algo-
rithms from S4 and displays the results
as needed. In the S4 software, the list of
ships in the area was received from one
local radar interface and from operators
who entered the ship information man-
ually. The SureTrak Probability of Im-
 pact Display application receives ship
data from two local radars as well as the
SureTrak system, eliminating the need
for manual data entry.

This work was done by John Elliott of God-
dard Space Flight Center. Further information
is contained in a TSP (see page 1), GSC-
16064-1