COMPOSITE MATERIALS WITH DISTINCTIVE BEHAVIORS UNDER HIGH ELECTRIC FIELDS:
1- MATERIAL SWITCHES TO “HIGH RESISTIVE” STATE.

Hamid Javadi

Jet Propulsion Laboratory
California Institute of Technology
4800 Oak Grove Dr.
Pasadena, CA 91109

September 15, 1994
Summary:

Electrically conductive silver filled epoxy ECF-563 preform, sandwiched between gold contact pads exhibits intermittent current-voltage characteristics with switching to “high resistive” state under applied bias voltage. The observed phenomena is believed to be an intrinsic property of composite materials when strong localized centers introduce space charge effects. We also propose some important applications.