

Guidelines for IUE Science Operations at Power-Negative Attitudes--
Use of the NASA Allocation for Such Operations

Effective 11-1-83

Proposed IUE science operations at spacecraft attitudes outside the range $25^\circ < \beta < 115^\circ$ must be reviewed with an IUE Resident Astronomer before they are executed. Such operations will be permitted when the spacecraft can be configured to ensure its operation in a power-positive or power-neutral manner. Power-negative operations which drive a spacecraft battery voltage below 22.5 volts will only be performed if they have Project approval. Normally, requests for such operations should reach the IUE Project Scientist in writing at least one week before the start of the observing run including the operation in question; however, the potential for such operations should be identified to the Observatory's scheduling activity near the start of the observing episode for which the science program is approved.

Among possible situations calling for power-negative operations, certain ones will receive priority consideration for approval:

1. Targets of Opportunity

Target of Opportunity observations may be permitted at power-negative attitudes subject to restrictions imposed by red-line limitations on battery usage. The number of entries into power-negative operations and the number of red-line incursions to be permitted for any given Target of Opportunity will be decided at the time of Target of Opportunity occurrence, and will depend on the IUE Observatory's evaluation of the target's scientific merit.

2. Time-critical Observations

Time-critical observations of transient but predictable phenomena will be permitted as power-negative operations if approved as such at the start of the observing episode. Adequate justification of observations at a specific epoch will be required.

3. Coordinated Observing Programs

When such programs involve intractable problems of scheduling multiple, heavily-subscribed facilities, necessary power-negative IUE operations will be considered for approval. Guest Observers are expected to consider IUE operational constraints when making scheduling requests to other facilities. The IUE Observatory should be advised of any potential for schedule-driven power-negative operations as soon as that potential develops.

Other requests for power-negative operations will be considered in situations which involve:

4. Redefinition of Target Priorities

It is recognized that newly available information may alter target priorities after a program has been scheduled by the IUE Observatory. Normally, power-negative operations driven by a change of priorities within a target list or by an expansion of the list will be avoided via a rescheduling of the observing run. Normally, as in the past, all arrangements necessary to accomplish such a schedule alteration will be the responsibility of the PI. When circumstances preclude rescheduling and the specific targets involved are of particular importance to the success of the program requests for power-negative operations will be considered. In the absence of a request for power-negative operations all approvals of additional targets will automatically be contingent on the presence of the targets at power-positive attitudes of the IUE spacecraft.

Approval authority for power-negative operations will normally rest with the IUE Project Scientist, but such authority will pass to the IUE Operations Scientist when necessary.