

## **NEWFIRM Filter Availability and Policy on Filter Changes**

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There presently exist more NEWFIRM-specific filters than can be accommodated in the Dewar at one time. NEWFIRM has two filter wheels, each with 7 slots, for filters. Some of the filters must be used with a blocking filter (i.e. two slots must be used). It takes a minimum of five weeks to change filters (instrument warm-up, change filters, cool-down). The availability of specific proprietary filters or of empty slots in the filter wheel in any given semester will depend on decisions that can only be made after the TAC meets and has provided its ranked list of programs.

Changing filters is a time-consuming procedure that removes NEWFIRM from service and does result in some risk to filters and the instrument. Hence decisions on the filter complement involve balancing scientific rankings of individual proposals, the overall scientific output achievable in any semester, other scheduling concerns, and the health of the instrument. There are also usage restrictions on some non-NOAO supplied filters.

A set of broadband filters has been procured by NOAO. Use of these filters may be proposed by anyone without restriction. These are

- i Broadband J, H, and  $K_S$  . These filters are now and shall remain installed in the Dewar permanently.

Several filters have been procured with non-NOAO funds by individual investigators for specific programs they hope to pursue. In some cases there are restrictions on use of these filters. These are

- ii Narrowband 1.64 micron [Fe II], 2.12 micron  $H_2$  , and 2.17 micron Br  $\gamma$  filters provided by S. Veilleux (U. Maryland). These R~100 filters are primarily for use on Galactic emission line sources. They may be proposed in any combination without restrictions on use. Installation is subject to scientific and scheduling considerations. They are installed for 2007B.
- iii 1.056 and 1.063 micron, R~1300, filter pair provided by S. Veilleux (U. Maryland). May be proposed without restriction. Presently installed, and will remain in the Dewar for 2008A, B and 2009A, B as part of an instrumentation partnership agreement with U. Maryland that enabled NEWFIRM to be built.
- iv 1.19 micron, R~100 filter provided by J. Lee (OCIW/NOAO) and collaborators. Propose for use only with permission of Dr. Lee. Please contact her ([jlee@ociw.edu](mailto:jlee@ociw.edu)) to discuss scientific collaboration or other arrangements prior to proposal submission. Presently installed, but not guaranteed to be in the instrument beyond 2007B.
- v A set of five intermediate band filters for the J and H windows provided by P. van Dokkum (Yale U.) These are 1.04, 1.19, 1.28 microns (R~7.5) and 1.56, 1.71 microns

(R~9). May be proposed for use in any combination but only with permission of Dr. van Dokkum. Please contact him to discuss scientific collaboration or other arrangements prior to proposal submission. Not presently installed.

In the event of oversubscription of available filter positions, the NOAO Director shall make the final decision on which filters will be installed. He shall consult with the TAC regarding scientific merit, observatory Directors and staff regarding scheduling constraints, and the instrument scientist regarding technical issues. Survey proposals requiring specific, non-JHK filter sets for repeated use over an extended time may be subject to scheduling constraints to accommodate users of other filters.

For further technical details on filter characteristics and on-sky performance, please see the NEWFIRM Proposal Fast Facts document on the [NEWFIRM Web pages](#).