then the total mass loss is known. The size of the nucleus can be calculated from the photometry. The total mass is estimated assuming a bulk density. Then the fraction of mass lost is calculated. The inverse of this number is an upper limit to the lifetime, and we find a value for it of 1900 additional revolutions left. The actual lifetime must be smaller than this value.

## MONOCHROMATIC OBSERVATIONS AT THE TOTAL SOLAR ECLIPSE OF 1991 JULY 11

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Using monochromatic filters we have observed the solar atmosphere, before, during and after the totality of the solar eclipse of 1991 July 11 at La Paz, Baja California Sur, México. We have chosen the spectral lines H$\alpha$ (6563 A), Ca II-K (3933 A) and Fe XIV (5303 A). Photographs as well as video images were obtained with refractors 10″ aperture (f/6.3 and f/10) using a specially built mounting which contained the interference filters and the cameras. Furthermore a CCD was used to obtain the chromospheric flash spectrum near the beginning and end of totality. Preliminary results of these observations obtained by digital processing of some images are given.

## PHOTOELECTRIC PHOTOMETRY OF ASTEROIDS 58 CONCORDIA, 122 GERDA, 326 TAMARA AND 441 BATHILDE

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Photoelectric photometry of asteroids 58, 122, 326 and 441 are herein presented. The observations were made during 1991 at Estación Astronómica "Dr. Carlos Ulrrico Cesco" of Félix Aguilar Observatory, San Juan, Argentina. The rotation periods for minor planets 122 and 326 are 8.903 ± 0.005 hs and 14.184 ± 0.005, respectively, and for 58 Concordia an approximate estimate of not less than 16 hs was found. The *B-V* color found for 122 Gerda is 0.87 ± 0.01, which is 0.09 greater than the value previously published.

## PHOTOELECTRIC PHOTOMETRY OF PERIODIC COMET FAYE

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We present the results of narrowband filter photometry of Periodic Comet Faye obtained from Estación Astronómica "Dr. Carlos Ulrrico Cesco"of Félix Aguilar Observatory, San Juan, Argentina, in November 11 and December 4, 1991 using the International Halley Watch (IHW) standard filters. The production rates of $CN$, $C_2$ and $C_3$ derived from the Haser model are: 24.6, 24.9 and 23.5 reespectively for the first date, and 24.6, 24.5 and 22.9, respectively for the second date. The ratios $Q(C_2)/Q(CN)$ and $Q(C_3)/Q(CN)$ are in good agreement with the values of a normal object concerning its gas emission.

## WAVE SPECTRUM BREAK IN AN ALFVÉN WAVE DRIVEN SOLAR WIND

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Several turbulent spectrum measurements of the interplanetary medium, e.g., from the missions Mariner, Pioneer, Voyager, etc., show a spectral break. Jatenco-Pereira & Opher (1989*a*, MNRAS, 236, 1; 1989*b*, A&A, 209, 327; 1989*c*, ApJ, 344, 513) studied Alfvén wave driven winds in young and old stars and the Sun. We study the wave flux evolution in the model of JPO using surface wave damping. We take as the initial wave flux a power law from $1 \times 10^{-6}$ to $1 \times 10^{-1}$ Hz. Using surface wave damping our preliminary calculations show a spectral break as observed.

## TOPOLOGICAL ANALYSIS OF AN ACTIVE REGION MAGNETIC FIELD WITH DIFFERENT SOURCES

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The analysis of solar flare observations has increased the interest in the physical processes involved in magnetic field reconnection, due to