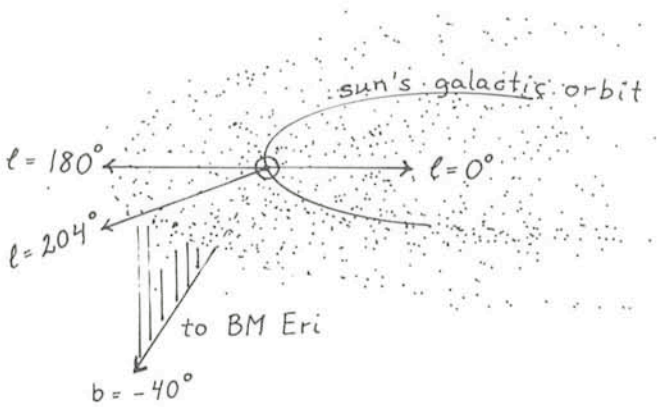

Fig. 3: *BM Eridani is at least 400–800 pc off the galactic plane, a population II giant of high luminosity.*

in the visible but showing up as embedded in dust, radiating in the infrared.

Then what kind of star could that be? BM Eridani is situated at least 400 pc below the galactic plane (Fig. 3). It is probably an "old disk" star and the companion to the M giant could not be too young. That is what can be said for the moment; we will be able to present an estimate of the absolute magnitude from the width of the emission in the K-line—the Wilson-Bappu effect—and also the radial velocity of the system. Most probably the long period and the slow internal motions of the components in this phase will not allow radial velocity changes with time to show up in our present data.

The reason for including BM Eridani in the observing programme was its status as a long-period eclipsing binary, but that is not the whole truth: Another good reason was its situation in the sky, nicely observable when HD 161387 was not up. It just happened like that.

"Tracking something," said Winnie-the-Pooh very mysteriously.
"Tracking what?" said Piglet, coming closer.
"That's just what I ask myself. I ask myself, What?"
"What do you think you'll answer?"
"I shall have to wait until I catch up with it," said Winnie-the-Pooh.
(A. A. Milne, Winnie-the-Pooh, 1926)

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Frame inspired by the stone paintings in the surroundings of La Silla.

The Photometric Reduction Service on La Silla

R. Barbier, ESO-La Silla

Observing with a photometric telescope needs interaction from the astronomer: he is the one who can exercise the soundest judgement on how to proceed with his programme. He will for instance decide to change instrumental parameters such as integration time, sequence of filters, diaphragm . . ., or to reobserve a given object which was not measured accurately enough or which shows interesting variations.

Those decisions are reached after a careful examination of the results. Raw numbers, such as counts, do not lend themselves easily to the operation but have to undergo a prior transformation which, in its simplest form, will yield on-line magnitudes that may include or not corrections for zero-point and average extinction. That kind of facility is included, for ESO telescopes, in the data-acquisition programme. An off-line service is also offered to the visiting astronomers to La Silla, the "quick-look reductions". Its main goal is to provide the observer with data where systematic trends coming from non-standard extinction and colour transformation have been removed, thus giving a much clearer idea of what the results are and making the previously mentioned decision-taking procedure easier.

During daytime, an operator saves the raw data from the previous night onto magtape and disk and reduces them, abiding by any special wills expressed by the astronomer. This is by no means an easy task, above all when some data come to him without any indication about source, telescope, photometric system used, names and magnitudes of standard stars . . . For best efficiency, the astronomer should either contact the operator and explain his needs to him, previous to the observations, or go to the computer centre and reduce the data himself, alone or with the help of the operator. Anyhow, if the astronomer is not present during the reductions, they should normally not be thought of as being final. Definitive ones are to be made by the user either in his home institute or at the end of his run on La Silla, using there the available programmes.

The procedure thus briefly outlined has now been in use for several years, since 1974 when Frank Middelburg wrote "REDUC". Many thanks are certainly due from the users' community to the past and present operators, Francisco Browne, Saul Vidal, and Raimundo Arancibia, for the numberless hours they spent since then, giving the visiting astronomers that service.

REDUC can handle the main photometric systems that are used on La Silla, i.e. UBV, uvby, H-Beta, VRI. However, some observers are coming with their own filters for special applications, and new photometric systems are being installed with

non-ESO telescopes on La Silla, all cases where no reduction can be done with REDUC. The need for more flexibility in the programme was also expressed by several users.

The basic approach of REDUC, a set of subprogrammes dedicated each to one particular photometric system, makes it rather cumbersome to modify it to accept new standard systems, and impossible for user-defined ones. It was therefore decided to try and write a new programme wherein the system structure, i.e. the way magnitudes or measurements in a filter are transformed to the colour indices system, would be defined in a matrix representation. Also needed in that scheme are symbolic arrays that are used to store the shape of the colour transformation equations, the expression of the extinction coefficients (their possible dependence on one of the colours). Usual systems such as UBV, VRI, UBVRI, uvby, VBLUW, H-Beta are then particular cases and standard values for the previously mentioned matrices and arrays can be simply loaded by specifying the name of the photometric system and telling the programme that the standard procedures for colour transformation and extinction computation will be followed. This means for instance that the colour equations have the form most often found in the literature, that colour-dependent extinction coefficients, if any, are not computed but are given standard values . . . Different weights can be given to the measurements used for the least-squares fitting of the coefficients. When the system is a non-standard one or when the default procedures for a standard system are felt not to be adequate, the user has to fill in part or all of the matrices and arrays. Graphic displays help the user to search for systematic effects like drift, non-linear colour transformation equations, errors correlated with the position of the telescope, wrong dead-time correction, etc.

More information on the possibilities of the programme can be found in a first version of the User's Manual, available on La Silla.

The new programme has already been in use for several months and is being improved thanks to constructive remarks coming from the users, helping to enlarge the original definition of main goals and features outlined with the cooperation of Patrice Bouchet and Christian Perrier, from the ESO staff. It is to be hoped that through that feedback from the visiting astronomers, the photometric reduction service on La Silla will further increase in quality, for the benefit of the whole users' community.

Fire Brigade and Rescue Squad

by J. Peñafiel, ESO

An emergency is defined as an unforeseen combination of circumstances which can lead to danger of human life and to damage of property, requiring immediate action.

In order to be prepared for this "immediate action", two groups were formed by the safety engineer at La Silla: a fire brigade and a rescue squad. Whilst the tasks of the former group may be clear to everybody, the latter one's aim is to intervene in the case of technical accidents, e.g. a car accident.

Both groups consist of volunteers of the local personnel coming from various departments. The members are trained for the multiple difficult situations, which might occur during an emergency operation at our observatory. They acquired general knowledge about the development of fire and the strategies of its combat in the first group and about situations in which confined persons are to be released during accidents of traffic, snow or earthquakes in the second group. They all know how to handle a case of first aid and how to transport unconscious, injured or panic-stricken persons.

All training is done in simulated cases, mock fires of combustible material and inflammable liquids existing at the observatory were attacked and extinguished with the adequate means: water, foam, powder. The operation of the fire-fighting truck and the handling of its various equipment is frequently rehearsed. Practical exercises and theoretical lessons are organized once per month. The rescue squad is trained continuously in first aid and the use of their tools as saws, tongs, rigging and jacks. You certainly saw their brown vehicle at the Pelícano air strip.

Up till now there were fortunately only very few real and serious cases of emergencies, but during these the groups have proved their efficiency in "immediate actions".

Here are two examples of activities of the rescue squad:

August 25, 1980: 15 hours snowfall. The rescue squad cleaned roads, saved vehicles caught by snow or mud, towed the bus with personnel through a miry part of the road, searched the buildings for isolated persons and brought them to the hotel.

January 4, 1982: 14.40 h: a car Renault R4 leapt off the road 300 m before the gate at Pelícano. The rescue squad led the two injured passengers to the porter-house and administered first aid until the arrival of the ambulance.