

## European Organisation for Astronomical Research in the Southern Hemisphere

PERIOD:

102A

#### APPLICATION FOR OBSERVING TIME

## Important Notice:

6a. Co-investigators:

Maçon

Giorgi

Menéndez

Bailer-Brown

L.

R.

S.

K.L.

By submitting this proposal, the PI takes full responsibility for the content of the proposal, in particular with regard to the names of CoIs and the agreement to act according to the ESO policy and regulations, should observing time be granted.

| 1. Title        | 1. Title Category: <b>X-0</b> This Is The Proposal Title This Is The Proposal Title |                   |            |                |                      |      |          | X-0                  |              |      |  |
|-----------------|---|-------------------|------------|----------------|----------------------|------|----------|----------------------|--------------|------|--|
|                 |   |                   |            |                |                      |      |          |                      |              |      |  |
| 2. Absti        | 2. Abstract / Total Time Requested  |                   |            |                |                      |      |          |                      |              |      |  |
| Total /         | Total Amount of Time:   |                   |            |                |                      |      |          |                      |              |      |  |
| This is         | a concise   | e abstract of the | proposal   | which may have | up to 9 li           | nes. |          |                      |              |      |  |
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|                 |   |                   |            |                |                      |      |          |                      |              |      |  |
| 3. Run          | Period  | Instrument        | Time       |                | Month                | Moon | Seeing   | Sky                  | Mode         | Type |  |
| A A             | 102   | FORS2             | 4h         |                | nov                  | n    | 0.8      | PHO                  | s            | турс |  |
| A/alt           | 102   | FORS2             | 3n = 2x1 + | -2H2           | nov                  | n    | 0.8      | РНО                  |              |      |  |
| В               | 102   | XSHOOTER          | 2n=2x1     |                | $\operatorname{dec}$ | n    | 0.6      | $\operatorname{CLR}$ | v            |      |  |
| $^{\mathrm{C}}$ | 102   | EFOSC2            | 3n         |                | feb                  | n    | 0.8      | THN                  | v            |      |  |
| D               | 102   | NACO              | 0.4n       |                | nov                  | n    | 0.8      | THN                  | v            |      |  |
| $\mathbf{E}$    | 102   | XSHOOTER          | 1h         |                | oct                  | n    | 1.4      | THN                  | $\mathbf{S}$ |      |  |
| F               | 102   | XSHOOTER          | 1h         |                | $\operatorname{oct}$ | n    | n        | THN                  | S            |      |  |
|                 |   |                   |            |                |                      |      |          |                      |              |      |  |
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|                 |   |                   |            |                |                      |      |          |                      |              |      |  |
| 4. Num          | ber of nig  | ghts/hours        |            | Telescope(s)   |                      |      | Amount   | of tin               | ne           |      |  |
|                 |   | to this project:  |            | NTT            |                      |      | 4n in 10 | 0.B-12               | 34           |      |  |
| b) still re     | quired to   | complete this pro | oject:     | UT2            |                      |      | 20h      |                      |              |      |  |
| F Cnas          | اما سمسمسا  | lea.              |            |                |                      |      |          |                      |              |      |  |
| -               | ial remarl  |                   |            | . 1            |                      |      |          |                      |              |      |  |
| This m          | acro is op  | otional and can   | be comme   | nted out.      |                      |      |          |                      |              |      |  |
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| 6. Princ        | 6. Principal Investigator: JSMITH999  |                   |            |                |                      |      |          |                      |              |      |  |
|                 |   |                   |            |                |                      |      |          |                      |              |      |  |
|                 |   |                   |            |                |                      |      |          |                      |              |      |  |

Following CoIs moved to the end of the document ...

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| 7. Description of the proposed programme   |
|--|
| A – Scientific Rationale: Scientific rationale: scientific background of the project, pertinent references; previous work plus justification for present proposal.   |
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| B - Immediate Objective: Immediate objective of the proposal: state what is actually going to be   |
| observed and what shall be extracted from the observations, so that the feasibility becomes clear. In the case of VLT-XMM programmes please also specify the immediate objectives of the XMM observations. |
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7. Description of the proposed programme and attachments

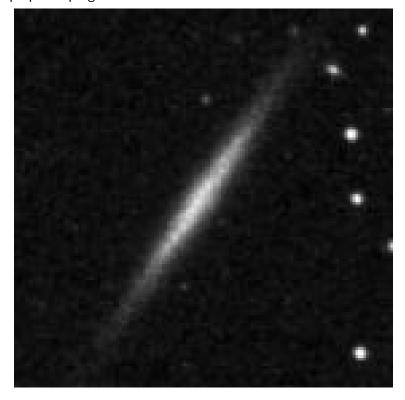


Fig. 1: A caption for your figure can be inserted here.

References can also be included using Make Caption. For example: References:  $\begin{tabular}{ll} \end{tabular} \label{table}$ 

|   | 8. Justification of requested observing time and observing conditions  |       |
|---|--|-------|
|   | Lunar Phase Justification: Provide here a careful justification of the requested lunar phase.  Time Justification: (including seeing overhead) Provide a careful justification of the requested number nights or hours for each observing run here. ESO Exposure Time Calculators exist for all Paranal and Last instruments and are available at the following web address: <a href="http://www.eso.org/observing/etc">http://www.eso.org/observing/etc</a> . | Silla |
|   | Links to exposure time calculators for APEX instrumentation can be found in Section 7 of the Call for Propos   | sals. |
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|   | 8a. Telescope Justification:  Justification for the use of the selected telescope (e.g., VLT, APEX, etc) with respect to other avail alternatives.   | lable |
|   |  |       |
|   |  |       |
|   | 8b. Observing Mode Justification (visitor or service):  Explain if a particular observing mode is specifically needed for this programme. If either can, in principle used then please enter N/A.  | e, be |
|   |  |       |
|   |  |       |
| _ | 8c. Calibration Request:   |       |
|   | Special Calibration - Adopt a special calibration  |       |
|   |  |       |

| This macro is optional and can be commented out.  |
|---|
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| 9a. ESO Archive - Are the data requested by this proposal in the ESO Archive (http://archive.eso.org)? If so, explain the need for new data.  |
| Are the data requested in this proposal in the ESO Archive (http://archive.eso.org)? If yes, explain the need for new data.   |
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|   |
| 9b. GTO/Public Survey Duplications:  Specify whether there is any duplication of targets/regions covered by ongoing GTO and/or Public Survey programmes. If so, please explain the need for the new data here. Details on the protected target/fields in these ongoing programmes can be found at:  GTO programmes: http://www.eso.org/sci/observing/teles-alloc/gto.html  Public Survey programmes: http://www.eso.org/sci/observing/PublicSurveys/sciencePublicSurveys.html  This macro is optional and can be commented out. |
|   |
| 10. Applicant's publications related to the subject of this application during the last 2 years Name1 A., Name2 B., 2001, ApJ, 518, 567: Title of article1  |
| Name3 A., Name4 B., 2002, A&A, 388, 17: Title of article2 Name5 A. et al., 2002, AJ, 118, 1567: Title of article3   |
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| 11. | 11. List of targets proposed in this programme |              |                  |                  |      |      |                  |                 |                |
|-----|--|--------------|------------------|------------------|------|------|------------------|-----------------|----------------|
|     | Run  | Target/Field | $\alpha$ (J2000) | $\delta$ (J2000) | ТоТ  | Mag. | Diam.            | Additional info | Reference star |
|     | ABD  | NGC 104      | 00 24 06         | -72 04 58        | 3.0  | 5    | 30 min           | 47 Tuc          |                |
|     | A  | NGC 253      | $00\ 47\ 33.1$   | -25 17 17.8      | 10.0 | 8    |                  | Seyfert gal.    |                |
|     | BC   | NGC 1851     | $05\ 14\ 06.3$   | -40 02 50        | 8.0  | 8.8  |                  | glob. cluster   |                |
|     | В  | NGC 1316     | $03\ 22\ 41.5$   | -37 12 33        | 15.0 | 9.7  | $10 \min$        | Fornax A        |                |
|     | В  | NGC 1365     | $03\ 33\ 36$     | -36 08 27        | 15.0 | 10   |                  | Seyfert gal.    |                |
|     | С  | M 42         | $05 \ 35.3$      | -05 23.5         | 2.0  | 4    | $1 \deg$         |                 |                |
|     | С  | Rosette      | $06\ 33.7$       | $+04\ 59.9$      | 3.0  |      | $1 \deg$         | NGC 2237        |                |
|     | D  | NGC 2997     | $09\ 45\ 38$     | -31 11 25        | 10.0 |      |                  | Sc galaxy       | S133231219553  |
|     | $\mathbf{E}$                                   | Alpha Ori    | $06\ 45\ 08.9$   | -16 42 58        | 1    | -1.4 | 6  mas           | Sirius          |                |
|     | F  | Alpha Ori    | $06\ 45\ 08.9$   | -16 42 58        | 1    | -1.4 | $6~\mathrm{mas}$ | Sirius          |                |

Target Notes: A note about the targets and/or strategy of selecting the targets during the run. For APEX runs please remember to specify the PWV limits for each target under 'Additional info' in the table above.

## 12. Scheduling requirements

This proposal involves time-critical observations, or observations to be performed at specific time intervals.

2. Link for coordinated observation

#### 1. Run Splitting

|     | 1 0                              |             |                                |             |       |
|-----|----------------------------------|-------------|--------------------------------|-------------|-------|
| Run | splitting                        | Run 1       |                                | Run 2       | delay |
| ВС  | 1,10s,1<br>2,10s,2,20w,2,15s,4H2 | В<br>С<br>Е | after<br>after<br>simultaneous | A<br>B<br>F | 10    |

## 3. Unsuitable period(s) of time

| Run        | from      | to        | reason                                      |
|------------|-----------|-----------|---|
| A          | 15-jan-19 | 18-jan-19 | Insert explanation of unsuitable time here. |
| В          | 15-jan-19 | 18-jan-19 | Insert explanation of unsuitable time here. |
| $^{\rm C}$ | 20-jan-19 | 23-jan-19 | Insert explanation of unsuitable time here. |

# 12. Scheduling requirements contd...

### 4. Specific date(s) for time critical observations:

| Run | from      | to        | reason  |
|-----|-----------|-----------|---|
| A   | 12-nov-18 | 14-nov-18 | Insert reason for time-critical observations. |
| D   | 1-nov-18  | 2-nov-18  |   |
| D   | 17-nov-18 | 18-nov-18 |   |
| D   | 23-nov-18 | 24-nov-18 |   |

| 13. Instrument configuration |            |                 |                        |                                   |  |
|------------------------------|------------|-----------------|------------------------|-----------------------------------|--|
| Period                       | Instrument | Run ID          | Parameter              | Value or list                     |  |
| 102                          | FORS2      | A               | Detector               | MIT                               |  |
| 102                          | FORS2      | A               | IMG                    | ESO filters: provide list HERE    |  |
| 102                          | XSHOOTER   | В               | $\operatorname{SLT}$   | readout UVB,readout               |  |
|                              |            |                 |                        | VIS,readout NIR                   |  |
| 102                          | EFOSC2     | $^{\mathrm{C}}$ | Imaging-filters        | EFOSC2 filters: provide list here |  |
| 102                          | NACO       | D               | IMG 54  mas/px VIS-WFS | provide list of filters HERE      |  |
| 102                          | XSHOOTER   | $\mathbf{E}$    | SLT                    | readout UVB,readout               |  |
|                              |            |                 |                        | VIS,readout NIR                   |  |
| 102                          | XSHOOTER   | $\mathbf{F}$    | SLT                    | readout UVB,readout               |  |
|                              |            |                 |                        | VIS,readout NIR                   |  |

| 6b. Co-investigators: |                       |      |  |  |  |  |
|-----------------------|-----------------------|------|--|--|--|--|
|                       | continued from Box 60 | a.   |  |  |  |  |
| S.                    | Lichtman              | 1377 |  |  |  |  |
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