How do I choose between Service Mode (SM), Visitor Mode (VM) and designated Visitor Mode (dVM)?

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When writing your proposal you need to decide in which mode you would like to execute your observations. ESO offers three observing modes:

- Service Mode (SM)
- Visitor Mode (VM)
- designated Visitor Mode (dVM)

The choice of the observing mode should be dictated by the nature of your observation.

The philosophy of the Service Mode is to guarantee high flexibility and efficiency in the execution of the telescope schedule. In SM, an observation is scheduled only when the atmospheric conditions meet the user's requirements as specified in the proposal. Observations can also be rescheduled for repetition if such conditions degrade during execution. This maximise the probability of completing a programme during the observing period. However, the observations will be carried out exactly as specified in the OB and according to the user instructions and no additional changes are possible.

In Visitor Mode, the astronomer is present at the Observatory during the observations. Each approved VM run will be allocated specific calendar nights. One of the programme investigators will travel to the Observatory and execute the observations. In designated VM, observations are scheduled on specific dates/slots as if they were regular VM runs, but they are executed by an ESO staff member, in close contact (e.g., via phone or video link) with the PI, or someone the PI designates to serve as the liaison with the Observatory. ESO reserves the right to allocate telescope time in dVM instead of regular VM for any runs with a duration smaller than one night and a justified need for VM.

VM and dVM enable direct interaction with Observatory staff and flexible planning of observations, including the possibility to adjust the observing programme to

prevailing atmospheric conditions. SM rules, such as 1h OB length, are not applicable in (d)VM. This can lead to lower overheads and a more efficient use of the allocated time. (d)VM may be necessary in case of complex observing strategies and/or the use of modes not supported in SM. The proposer should prepare a backup or alternative programme that can be executed if atmospheric conditions are worse than desired, while still adhering to the original science case and objectives. If conditions do not allow observations at all, the time slot is lost, with no opportunity for rescheduling or reobserving.

Thus, if you have a standard and straightforward observation that can be easily explained in the Readme file of your run, choosing SM will ensure the highest probability of successfully completing your programme. On the other hand, if your observation is complex, and its success depends on a strategy that requires real-time decision, VM or dVM are the better options.

For instance, if you plan to observe a target with FORS2 Long Slit Spectroscopy (LSS) under relatively good atmospheric conditions and without any particular limitations or special requests, surely SM is the best option. The observation can be easily encoded into the OB and its templates, and any additional instructions can be provided in the Readme file. You can also specify any time constraint by providing time intervals in the OB.

On the other hand, suppose you want to observe two different regions of an extended object with FORS2 LSS, but their precise locations are not known in advance. Adapting the position angle to capture the regions of interest and defining the best target can only be done by inspecting the acquisition image, and only you are able to make this decision. In this case, VM or dVM are surely the best options for you.

- Tags
- designated
- dVM
- service
- SM
- visitor
- VM