

The background of the slide is a reproduction of the painting 'The Starry Night' by Vincent van Gogh. It depicts a night sky with swirling, luminous clouds and stars, a dark, gnarled cypress tree in the foreground, and a small village with a church spire in the distance.

Why to stay away from the telescope at night...

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Which telescope am I talking about?

- Open to a wide community
 - Not just for you or your neighbors
- With operational instruments
 - Not when commissioning ...
- Though...

Whom am I talking about?

- PI/team of an observing program
- Observer
- Telescope operator

Better to let the PIs stay home...

(a plea for service observing)

- Well-trained staff, whose job is to observe, is better at observing than most (or all!) PIs.
- No need to have a PhD to observe!
- Door opened to Queued Observing...
 - High ranked programs completed
 - All data taken on the requested sky conditions
 - No time wasted by PIs getting ready to observe...
sometime for nothing!
 - Better legacy value given to data...

The background of the slide is a reproduction of the painting 'The Starry Night' by the Dutch Impressionist painter J.M.W. Turner. The painting depicts a night scene with a dark, turbulent sky filled with swirling, golden-yellow stars and a prominent, dark, gnarled cypress tree in the foreground on the left. The overall mood is somber and contemplative, with a focus on the texture and movement of the brushstrokes.

...but, please, stay in close touch
with them, even from afar!

- The observatory needs a close contact with its users. Otherwise...
- Be flexible and open to new ideas

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While we're at it, better to pre-process the data too!

- Less burden on the PIs
- PIs more inclined to use the data quickly

The background of the slide is a reproduction of the painting 'The Starry Night' by the Dutch Impressionist painter J.M.W. Turner. The painting depicts a night scene with a turbulent, swirling sky filled with stars and a prominent crescent moon. Below the sky, a dark, silhouetted landscape features a small town with a church spire and a large, dark, gnarled tree in the foreground. The overall color palette is dominated by dark blues, greens, and yellows, with a sense of movement and drama.

The more we do for our PIs, the better for them... and for us!

- Better data
- More science
- Stronger support from the communities when times are difficult
- Saving funds!
 - Travel expenditures
 - PIs/teams time

Operators and Observers



The background of the slide is a reproduction of the painting 'The Starry Night' by Vincent van Gogh. It features a dark, swirling night sky with a prominent crescent moon and a bright star, set against a dark, turbulent sea and a small village with a church spire in the foreground.

If the telescope is far from the headquarters, stay at the headquarters!

- No commute to the telescope anymore!
 - Save time, energy and money
 - Minimize risks on the road!
- If telescope environment is hostile (Maunakea is a good example...)
 - Observations and operations are better done at the HQ (better judgment), leading to better science!
 - Safety 2-person rule? No longer an issue...

The basics of what to do to go remote: so many things to replace!

- The eyes of the operator
 - Sensors (digitized information), cameras (if nothing else is easy...), ...
- The ears of the operator
 - Mics and audio over the network
- The nose of the operator
 - Still an issue...
- The voice of the operator
 - Prerecorded warnings in the dome...
- The hands of the operator
 - Remote buttons (including on/off switches, activation of spares, ...) and sensors

The collateral advantages of remote operations

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So much information is suddenly available
(mostly in digital form) from afar
(everywhere) at any time!

Some examples...

- Automatic triggering of alerts (text messaging, email, phone call...) when parameters are off-limits:
 - catching issues before they become a real problem
 - inform all those concerned when it is a problem!
- Remote access to a wealth of information from everywhere (with internet access)
 - easy diagnostic for on-call staff, saving time and stress!
- Logging of everything (including audio and video)
 - an invaluable tool for understanding problems!
- Observatory control can be computer assisted
 - a single person can run the show!
- The way to automatic operations is now open...

A new paradigm for ground-based telescope!

- New instruments
 - have to be fully operable remotely at night, and
 - shall not require manual interventions for a few days
- Next generation of telescopes
 - Shall move to queued service observations to be as efficient as possible (a night is not cheap!)
- No staff scientist needed at night...

...but not a new paradigm for astronomy!



