

L^AT_EX template for Meerkat Telescope Operator Manual

Goals:

- To prepare the manual for printing.
- To create a platform that can handle professional and high quality document as required in scientific reporting.

Advantages of Latex over Word:

- Handles large documents and Graphics
- Text quality and layout far better than word.
- Complex Mathematical equations and scientific features
- Better referencing.
- Version control possible

Disadvantages:

- L^AT_EX is typesetting/programming language, needs time to learn.
- Commands must be typed in.
- Errors due to incompatible packages.

Getting Started with Latex

- Install L^AT_EX compiler (MiTex for Windows, MacTex for Mac, TexLive for linux/Unix)
- Install Latex Tex editor (TexMaker, TexStudio, etc)
- Or **Overleaf** for cloud typesetting.

Elements of the Manual that were typeset

- All figures (more than 130) must be:
 - referenced
 - captioned
 - size scaled
 - clear - not blurry (latex has some tools to improve the quality of images.)

An example of bad image is shown in

```
kat@obs.mkat.karoo.kat.ac.za: ~
Connection to obs.mkat.karoo.kat.ac.za closed.
sibusiso@LAPTOP-CLIFFORD:~$ ssh kat@obs.mkat.karoo.kat.ac.za
Warning: the ECDSA host key for 'obs.mkat.karoo.kat.ac.za' differs from the key for the IP address '10.97.1.13'
Offending key for IP in /home/sibusiso/.ssh/known_hosts:2
Matching host key in /home/sibusiso/.ssh/known_hosts:10
Are you sure you want to continue connecting (yes/no)? yes
kat@obs.mkat.karoo.kat.ac.za's password:
Welcome to Ubuntu 18.04.4 LTS (GNU/Linux 5.0.15-1-pve x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:    https://landscape.canonical.com
 * Support:       https://ubuntu.com/advantage

 * Introducing self-healing high availability clustering for MicroK8s!
   Super simple, hardened and opinionated Kubernetes for production.
   https://microk8s.io/high-availability

 * Canonical Livepatch is available for installation.
   - Reduce system reboots and improve kernel security. Activate at:
     https://ubuntu.com/livepatch
Last login: Fri Nov  6 11:26:43 2020 from 10.1.42.45
kat@obs.mkat.karoo.kat.ac.za:~$
```

Figure 1: Linus add vpn dialog box

```
(base) moloko@moloko-Latitude-E5570:~$ ssh kat@obs.mkat.karoo.kat.ac.za
Warning: the ECDSA host key for 'obs.mkat.karoo.kat.ac.za' differs from
the key for the IP address '10.97.1.13'
Offending key for IP in /home/moloko/.ssh/known_hosts:25
Matching host key in /home/moloko/.ssh/known_hosts:33
Are you sure you want to continue connecting (yes/no)? yes
kat@obs.mkat.karoo.kat.ac.za's password:
Welcome to Ubuntu 18.04.5 LTS (GNU/Linux 5.0.15-1-pve x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:    https://landscape.canonical.com
 * Support:       https://ubuntu.com/advantage

 * Canonical Livepatch is available for installation.
   - Reduce system reboots and improve kernel security. Activate at:
     https://ubuntu.com/livepatch
Last login: Tue May  4 16:47:27 2021 from 10.1.42.41
kat@obs.mkat.karoo.kat.ac.za:~$
```

Figure 2: Good image

- Bulleted lists and common errors:
 - consistant bulleted lists across the documnent
 - add inroductory sentence to bulleted list.
 - harmony between inroductory sentence and list
 - Semi-colon or not?
- Naming convections and typographycal styles:
 - SI units
 - Consistant font styles for code, Names of files, servers, software, links, etc. for example,

```
ssh kat@obs.mkat.karoo.kat.ac.za
ipython
import katuilib
configure_cam("camcam","all")
```

- Common technical errors:
 - incorrect use of punctuation, (i.e :, (), –)
 - missing punctuation
 - Language - UK vs US?