

AF2 Lost fibre recover procedure:

1 Introduction

This document describes the procedure how to recover a fibre which can't be found by the robot anymore.

2 Procedure

The first thing to try when a fibre, which has turned red in the AF2 Engineering Mimic (see fig1), because the robot failed to pick it up properly or it was dropped during a move, or it failed to find the fibre performing a af2 loadmodule, is to try to recover the fibre using the command '**af2 recover**'. This command causes AF2 to inspect the immediate area where the fibre was last known to be placed. **Only try this command once**. If a fibre can't be recovered, then the fibre module should be separated from the robot, to perform a visual inspection. First the telescope should be brought down to AP3, so its in a horizontal position.

The best thing is to bring up a laptop PC to the dome gallery. So you can control the robot from there. Login with a ssh session to the af2pc in use.

Example: xhost +
 ssh -X af2pc1.ing.iac.es -l af2
 password: c915nno

Then start the AF2 Engineering Mimic by typing: '**af2 mimic**', this will start the windows shown in fig 1. The green lines represent the positions of the science fibres, the yellow lines the positions of the fiducial fibre bundles. If a fibre is shown in red it means that it couldn't be found by the robot.

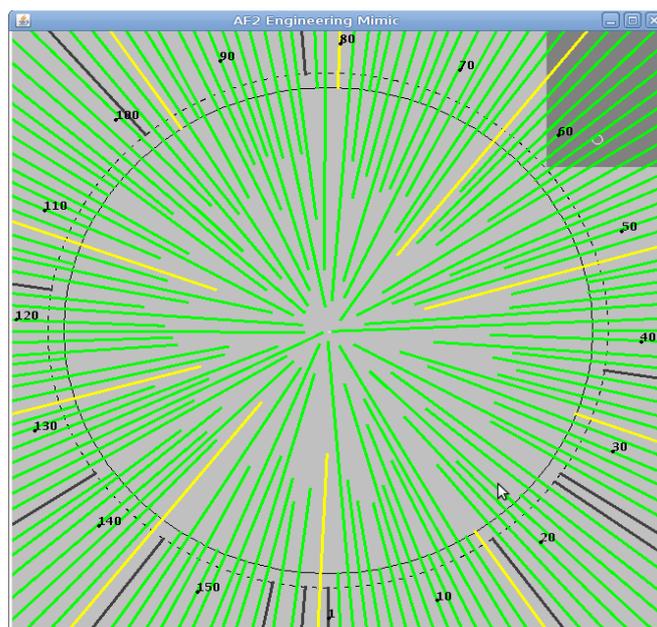


Fig 1:

AF2Engineering Mimic

Move the prime focus rotator to the position whereby the autoguided camera head is pointing upwards.

Then the fibre module has to be separated from the robot, using the 19cm long bolts, kept in the red mechanical tool trolley, in the plastic box marked as: '**tornillos auto-fib**'.

Remove the 4 bolts which hold the fibre module onto the robot with a 8mm Alan key, and replace them with the long bolts. These only have to be hand tight.

Check if there are cables tight up with cable ties, preventing the separation of the modules.

Then separate the fibre module from the robot by pulling it backwards gently and parallel.

Remember this is 2 persons job!

There now should be just enough room to inspect the fibres. In the autofib cupboard in the dome there is a mirror mount on a piece of steel angle profile, which can be of assistance for the inspection. You also may need an extra magnetic bench light to be able to see things. There is also a small camera attached to a piece of cable tray, called the AF2 sniffer camera. This also can be of assistance to inspect the fibre in question, if the back illumination is working, prism is in place, etc. After a visual inspection of the fibre, park it by hand, by pulling it back by its protection tube, until its against the small metal studs forming the outer ring. This is a reference position, called the: '**load ring position**' where the fibres can be recovered.

Now carefully push the fibre module back onto the robot, again with 2 persons, and replace the long bolts with the normal ones.

To recover the fibre, the back illumination has to be on.

Then perform the command '**af2 ringfibre X**'. This is a so-called engineering command, which means you have to enter the password again.

Please checkout the [AF2 command manual](#) on the meaning of this command. Be aware that the **ringfibre** command does **NOT** tell the robot to physically move the fibre, it only tell the system that the fibre has been put in the ring position.

If this was successful the fibre can be used again.

If the fibre still can't be recovered, then you have to disable it with the command '**af2 disablefibre X**', where X is the number of the fibre. This will automatically send an e-mail to the responsible persons involved with AF2.

Renee Pit, 13/11/2015

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