

Example with Figures

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1 Introduction

Figures can be added to L^AT_EX documents like this: In Figure 1, a Postscript

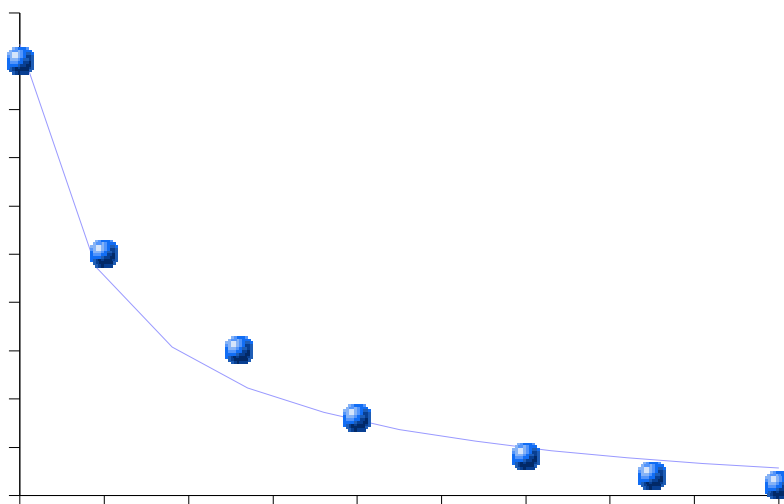


Figure 1: Graph of Fit to $A + B/x$

image was converted to a pdf image using a conversion tool, and then imported. Almost anything can produce a Postscript image by using a *print to file* feature.

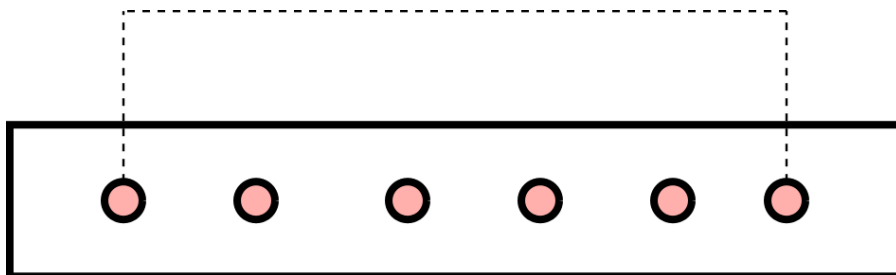


Figure 2: PNG image

In Figure 2, a PNG image has been used.

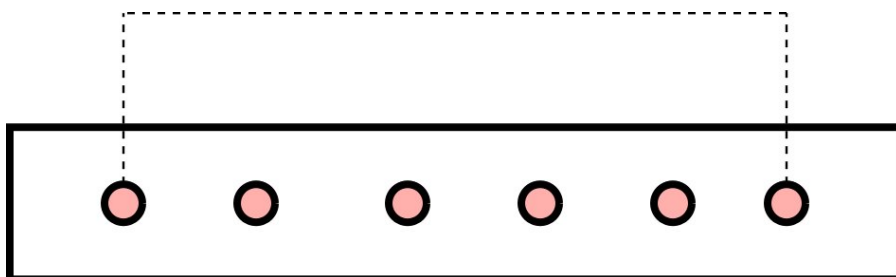


Figure 3: JPEG image

In Figure 3 the same image, but in JPEG format, has been used. Note in the case of the PNG and JPEG formats, the images inside the final pdf document can be extracted by mouse clicking over them.

1.1 Working with images

1.1.1 Coordinate systems

In order to work with images, you have to understand something about where \LaTeX puts things, and how sizes are measured.

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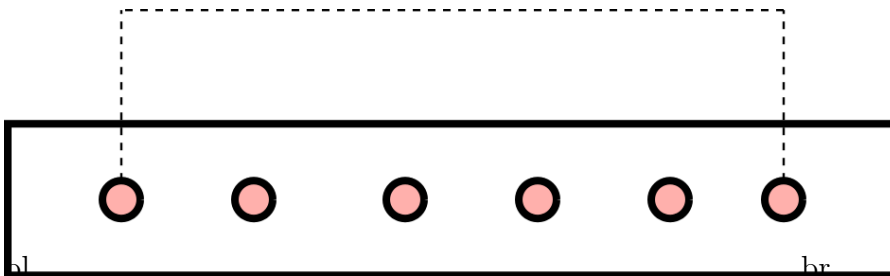


Figure 4: Boundary guess

In Figure 4, an image has been imported, and text has been added to mark the four corners of the image space, with just a wild guess about where those corners will be.

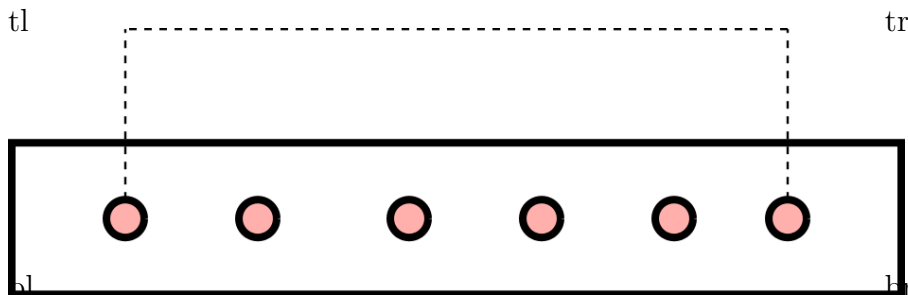


Figure 5: With boundaries shown

In Figure 5, the boundaries have been revised to the right dimensions by basic math and trial and error.

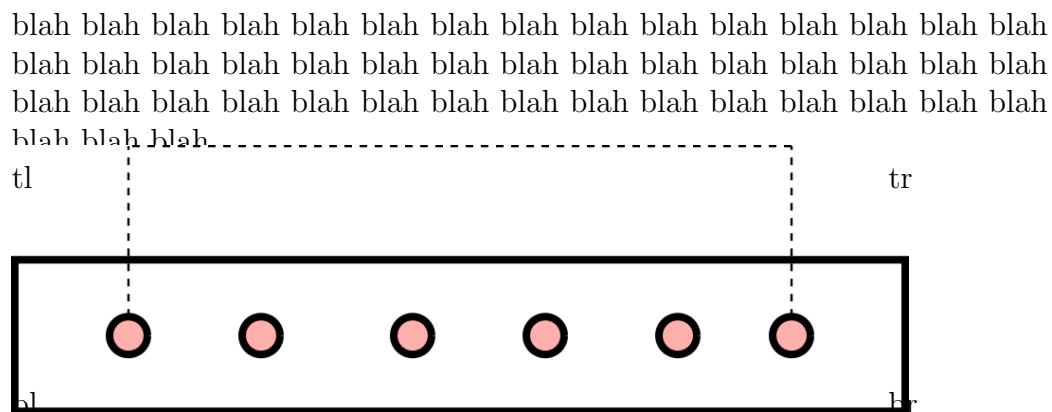


Figure 6: Not enough space

The coordinates in the **picture** command determine how much space to leave for the image and where to put it in that space. (The text has been obscured by Figure 6, where not enough space has been left.)

On the other hand, we can get extra white space. In Figure 7, extra space

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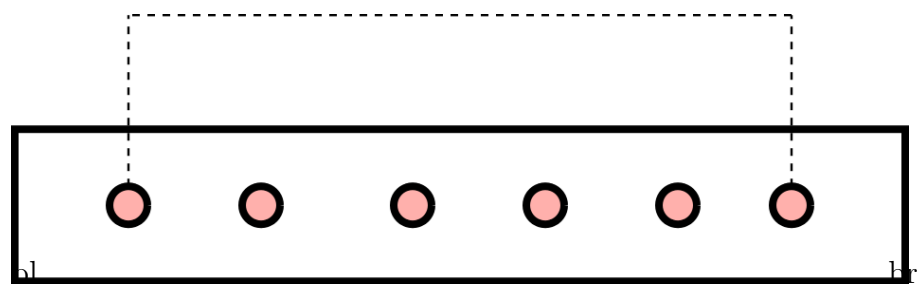


Figure 7: Too much space

has been left.

The image can be shifted by adjusting the coordinates in the **put** command.

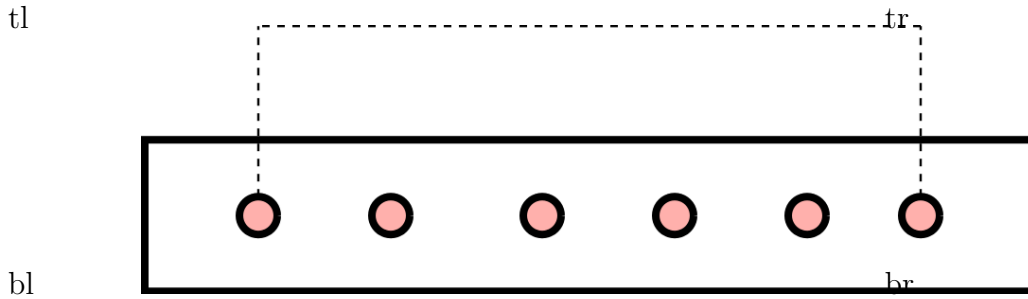
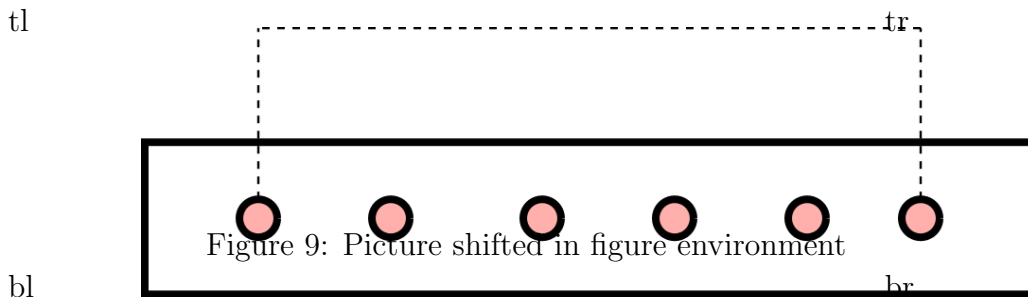


Figure 8: Shifted image

The image can also be shifted by adjusting the coordinates in the **picture** environment. In Figure 9, note how the caption has moved, and in what



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direction.

(I rarely adjust this second coordinate in the **picture** environment.)

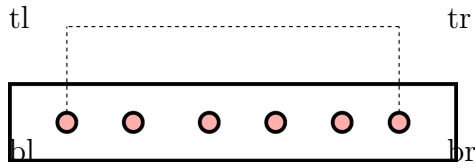


Figure 10: Scaled image

In Figure 10, the image has been scaled down by a factor of two, with coordinates adjusted accordingly. You'd probably want to shift this.

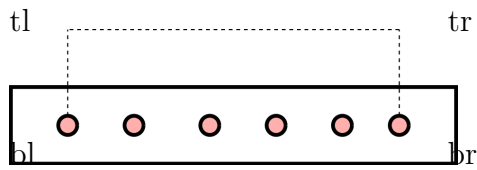


Figure 11: Scaled and centred image

In Figure 11, the image has been scaled and centred. In this case, I used the **center** environment.

1.1.2 Adding text to images

One useful option is to anotate images with text. You might be tempted, if drawing the image yourself, to add text in the original drawing. However in that case you may not have the same fonts available. Adding them in \LaTeX will keep fonts consistent with the document. (It also avoids size problems if you scale the image up or down.)

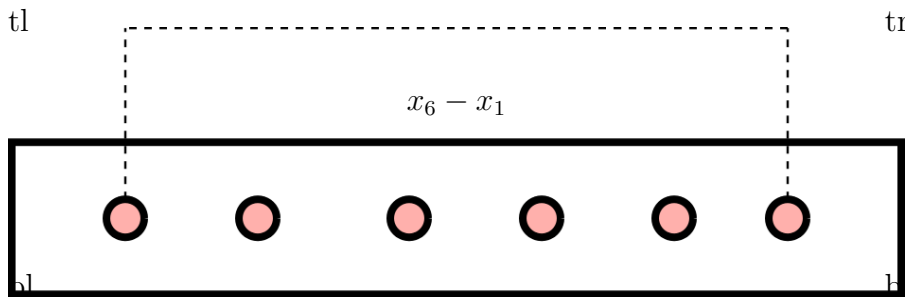


Figure 12: Image with text

In Figure 12, text (in math mode, in this case) has been added.

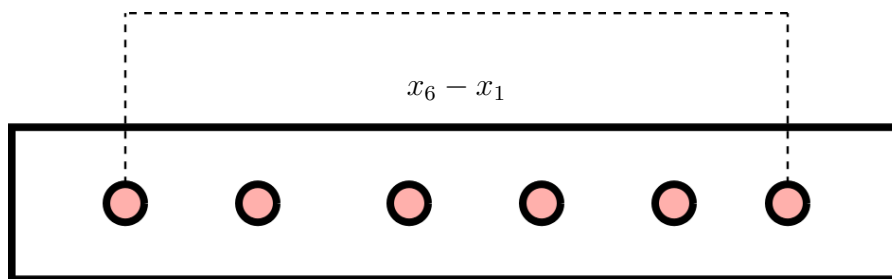


Figure 13: Final version

Figure 13 shows the final result with the corner text commented out.