Main-Title

Sub-Title

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A tagline for the report.

Institution1
Institution2

1st August 2017

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1 Markdown

1.1 General

Some markdown text.

A list:

- something
- something else

A numbered list

1. something
2. something else

This is a long section of text, which we only want in a document (not a presentation) some text some more text some more text some more text some more text some more text some more text some more text some more text

1.2 References and Citations

References to fig. 3.1, table 4.1, eq. 5.2 and code 3.1.

Referencing multiple items: figs. 3.1 to 3.3.

A latex citation.[1]

A html citation.[2]

1.3 Todo notes

an inline todo

Some text.

a todo in the margins

2 Text Output

```
This is some printed text,
with a nicely formatted output.
```

3 Images and Figures

Figure 3.1: A nice picture.

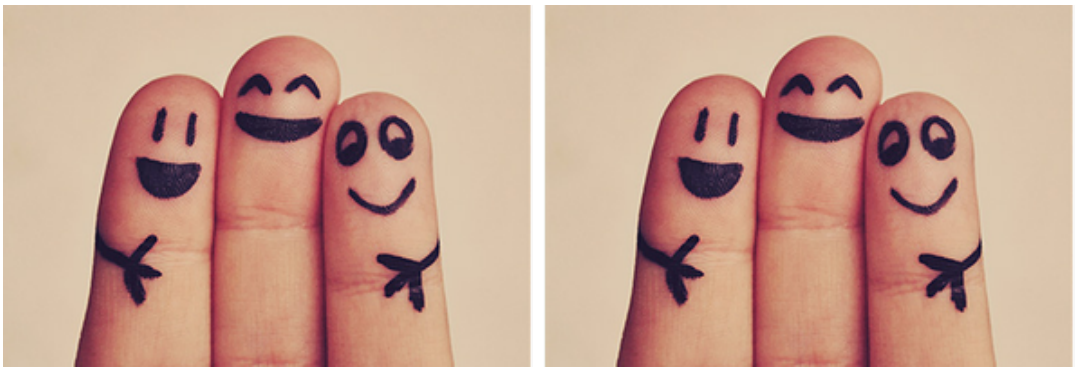

Figure 3.2: Horizontally aligned images.

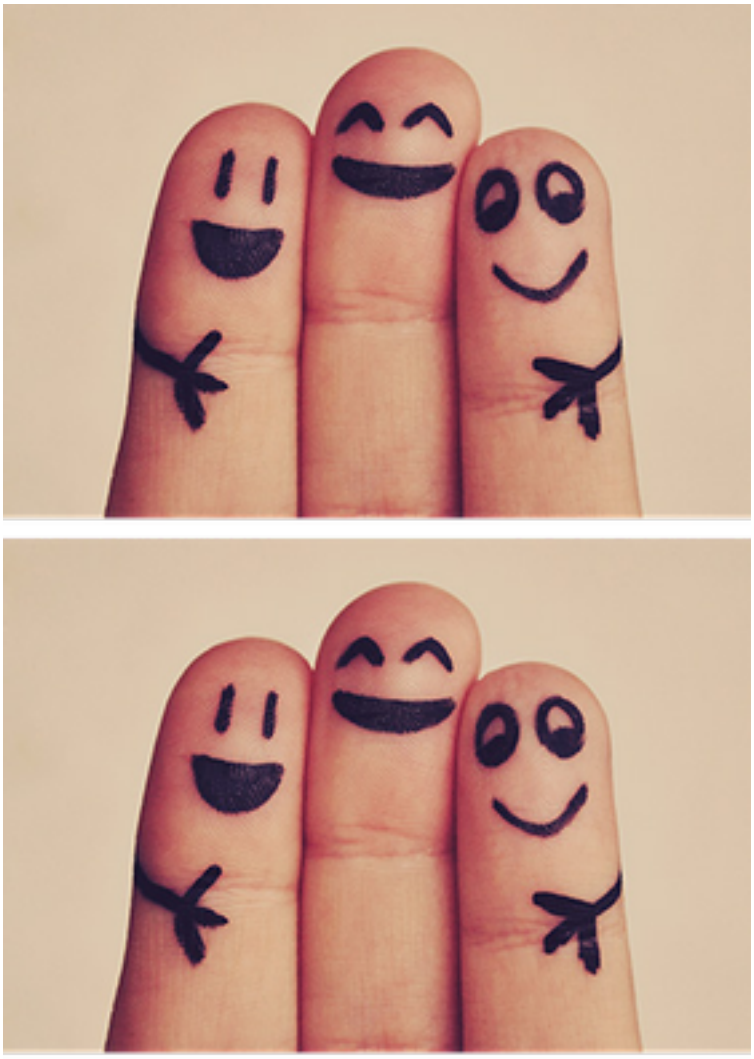

Figure 3.3: Vertically aligned images.

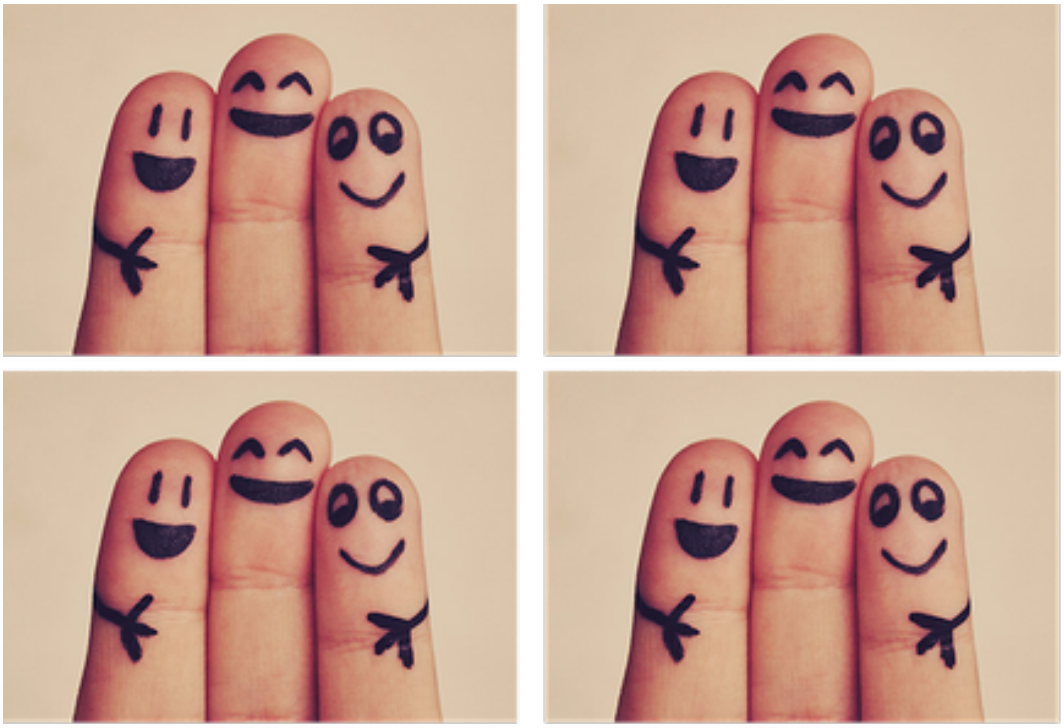

Figure 3.4: Images aligned in a grid.

3.1 Displaying a plot with its code

Code 3.1: The plotting code for a matplotlib figure (fig. 3.5).

```
plt.scatter(np.random.rand(10), np.random.rand(10),
            label='data label')
plt.ylabel(r'a y label with latex $\alpha$')
plt.legend();
```

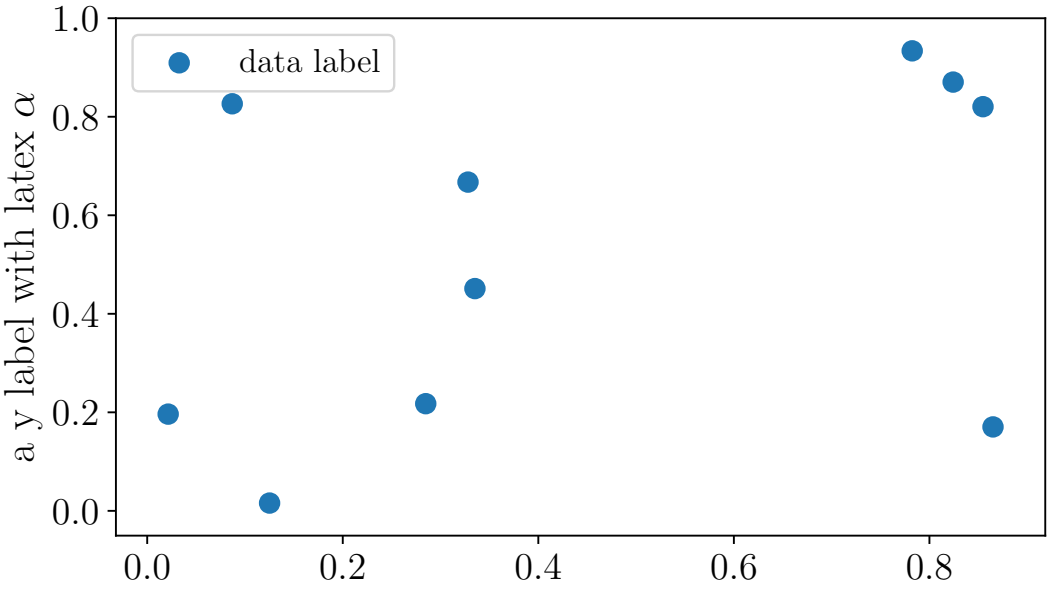

Figure 3.5: A matplotlib figure, with the caption set in the markdowncell above the figure.

4 Tables (with pandas)

Code 4.1: The plotting code for a pandas Dataframe table (table 4.1).

```
df = pd.DataFrame(np.random.rand(3,4),columns=['a','b','c','d'])
df.a = ['$\delta$','x','y']
df.b = ['l','m','n']
df.set_index(['a','b'])
df.round(3)
```

Table 4.1: An example of a table created with pandas dataframe.

	a	b	c	d
0	δ	l	0.583	0.279
1	x	m	0.914	0.021
2	y	n	0.333	0.116

5 Equations (with ipython or sympy)

$$a = b + c \tag{5.1}$$

Code 5.1: The plotting code for a sympy equation (eq. 5.2).

```
f = sym.Function('f')
y,n = sym.symbols(r'y \alpha')
f = y(n)-2*y(n-1/sym.pi)-5*y(n-2)
sym.rsolve(f,y(n),[1,4])
```

$$\left(\sqrt{5}i\right)^{\alpha}\left(\frac{1}{2}-\frac{2i}{5}\sqrt{5}\right)+\left(-\sqrt{5}i\right)^{\alpha}\left(\frac{1}{2}+\frac{2i}{5}\sqrt{5}\right) \tag{5.2}$$

6 Embed interactive HTML (like ipywidgets)

Interactive HTML was created using ipyvolume and will render below in .html type outputs:

7 References

[1] T. Yu Zelenyak, Kh T. Kholmurodov, A. R. Tameev, A. V. Vannikov, and P. P. Gladyshev. Molecular dynamics study of perovskite structures with modified interatomic interaction potentials. 50(5): 400–405. ISSN 0018-1439, 1608-3148. doi:10.1134/S0018143916050209.

[2] Alec Kirkeminde and Shenqiang Ren. Thermodynamic control of iron pyrite nanocrystal synthesis with high photoactivity and stability. 1(1):49–54. ISSN 2050-7496. doi:10.1039/C2TA00498D.