## 0.1 Statement of problem

Suppose we are solving the Dirichlet problem for the Laplace equation in three dimensions on a surface of revolution such that:

$$\Delta u = 0 \qquad \text{in } \Omega \tag{1}$$

$$u = f \qquad \text{on } \Gamma \tag{2}$$

$$u \to 0 \qquad \text{as } \mathbf{x} \to \infty \tag{3}$$

The original kernel-independent fast multipole method

$$\text{M2L: } \int_{\mathbf{y}^{B,d}} G(\mathbf{x},\mathbf{y})\phi^{B,d}(\mathbf{y})d\mathbf{y} = \int_{\mathbf{y}^{A,u}} G(\mathbf{x},\mathbf{y})\phi^{A,u}(\mathbf{y})d\mathbf{y} \text{ for all } \mathbf{x} \in \mathbf{x}^{B,d}$$

## 0.2 The Riemann Hypothesis

Blah, blah, blah. There is nothing interesting in figure 1.

*This statement is false.*

Figure 1: This is the caption that appears under the figure. It may be quite long—you wouldn't want such a long caption to appear in the "list of figures".

More blah, blah. There is nothing interesting about table 1 either.

Table 1: For some reason unfamiliar to me, typesetting rules require one to place captions above tables, but below figures. Go figure.

| You could put a table here. I won't. |
|---|

## 0.3 Another section

Notice that the fist paragraph is indented. There's a package to do that automatically. Blah, blah. Blah, blah, blah, blah.

# Bibliography

[1] J. B. Conway, *Functions of One Complex Variable I*. Second edition. Springer-Verlag, Graduate Texts in Mathematics **11**, 1991.