\documentclass{article}

\usepackage[utf8]{inputenc}

\usepackage[A4, portrait, margin=1.5in]{geometry}

\title{Least Squares}

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\usepackage{natbib}

\usepackage{graphicx}

\begin{document}

\maketitle

\section{Introduction}

hum: humidity measured by gehaka; cycles: cycles measured by our meter

\begin{center}

\begin{tabular}{ c c c }

\hline

Sample number & Cycles & Humidity \\

\hline

0 & 3497 & 11.1 \\

1 & 3994 & 11.9 \\

2 & 4511 & 13.0 \\

3 & 4913 & 14.1 \\

... & ... & ... \\

n & 2900 & 10.1

\end{tabular}

\end{center}

$$y\_n(x) = \sum\_{k=0}^n {'} a\_k T\_k(x)$$

$$a\*cycles + b = hum + error$$

$$f(a,b) = [hum\_{0} - (a\*cyclos\_{0})]^{2} + [hum\_{1} - (a\*cyclos\_{1})]^{2} + ... + [hum\_{n} - (a\*cyclos\_{n})]^{2}$$

To minimize this distance function, we need to set all first partial derivatives to zero:

$$\[ \frac{\partial}{\partial a}(f(a,b)) = 0$$

$$\[ \frac{\partial}{\partial b}(f(a,b)) = 0$$

$$$$

$$$$

$$$$

\begin{figure}[h!]

\centering

\includegraphics[scale=1.7]{universe.jpg}

\caption{The Universe}

\label{fig:univerise}

\end{figure}

\section{Conclusion}

``I always thought something was fundamentally wrong with the universe'' \citep{adams1995hitchhiker}

\bibliographystyle{plain}

\bibliography{references}

\end{document}