Ocean Battlespace Sensing (OBS) S&T Department Annual Report

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http://www.onr.navy.mil/sci_tech/32/reports/annual/

LONG-TERM GOALS

Briefly identify your top-level goals within which your effort exists. The goal of this LaTeX document class is to allow creation of annual reports matching the ONR requirements, without using a commercial word processor.

OBJECTIVES

This section should contain the scientific or technological objectives of this effort.

APPROACH

Describe your proposed technical approach. Briefly identify the key individuals participating in this work at your own or other organizations and the roles they play. In the present document, this section will describe the onrannual document class.

The source LaTeX file may be downloaded from CTAN, and it is intended that you modify it according to the comments within. In TeX Live 2009, this file may also be found in the texmf-dist/doc/latex/onrannual directory under the top-level TeX Live install directory. The onrannual class is a modification of the default article class, and including other styles may cause issues with spacing, particularly around section headings.

In the preamble, a few new commands may be used. The `\awardnumber{N00014-000-0000}` macro is used to define the award number, and the optional `\projecturl{\url{http://foo.edu}}` is used to define a project URL in the title block. ONR also requires a distribution statement to be inserted in the

header of the first page, and this is defined with the `\distribution{xxx}` macro, where `xxx` is replaced with the appropriate text from the current ONR guidelines.

In general, the standard document macros may be used: `\title{My Report Title}` is used to set the title, and `\maketitle` is used after `\begin{document}` to display it. Getting the author layout correct is slightly tricky, and one example is demonstrated here:

```
\author{First Author}
\affil{%
Academic Institute \\
Laboratory 1 \\
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% NOTE: the trailing \\ is required at the end of this last line to separate authors
phone: (111) 222-3333    fax: (111) 222-4444     email: \href{mailto:first.author@ai.edu}{first.author@ai.edu} \\}
```

This author and affiliation block is repeated for successive authors. Standard `\section` commands are used for sections, and `\bibliography` may be used to generate a bibliography. Subsections are not allowed, and will produce an error.

For other sample content to show usage of math and references, we can look at the Navier-Stokes equations, as given by Schlichting and Gersten (2000):

$$\rho \frac{\partial D\overrightarrow{v}}{Dt} = \overrightarrow{f} - \text{grad}p + \text{Div}\tau \tag{1}$$

with

$$\tau = \mu \left(2\dot{\varepsilon} - \frac{2}{3}\delta \text{div}\overrightarrow{v} \right) \tag{2}$$

where δ is the Kronecker unit tensor $\left(\delta_{ij} = 1 for i = j, \delta_{ij} = 0 for i \neq j\right)$.

WORK COMPLETED

Actual tasks completed or technical accomplishments.

RESULTS

Describe meaningful technical results achieved in the report fiscal year. Make the significance clear. Emphasize what was learned, not what was done. This should be a summary of significant results and conclusions, and, especially, any “new capabilities” generated.

Figure 1 is a test graphic.

IMPACT/APPLICATIONS

Potential future impact for science and/or systems applications

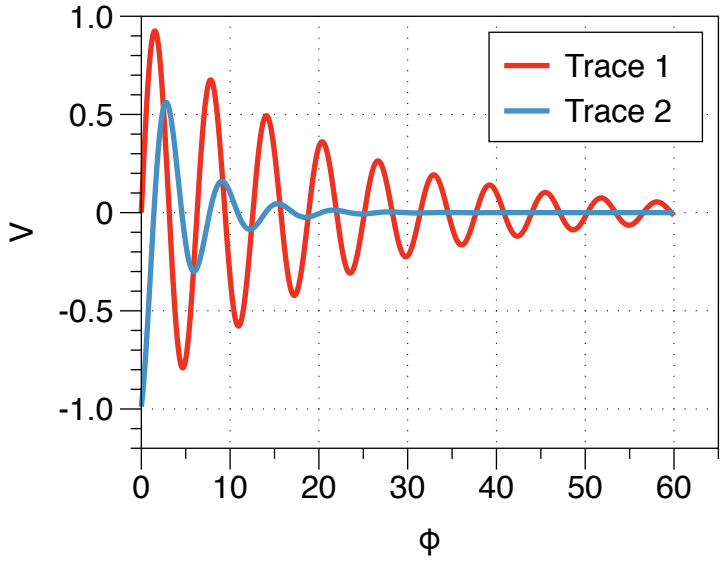

Figure 1: An example graphic. In general, you should use a long caption to describe the graphic in words. In this case, we use a long caption to ensure that all the caption text is correctly centered under the graphic.

TRANSITIONS

An S&T product has sufficiently matured and some organization (acquisition, industry, customer) outside of ONR is doing something with it. "Product" includes equipment, prototypes, original ideas/theories, and equations. Include 'who' that 'organization' is, how they are using it, and when it is expected to be used. It is of special interest if it is already being used or has had acquisition funds committed. Examples are 'products' entering acquisition, being used by industry, or being used by other S&T organizations such as DARPA).

RELATED PROJECTS

If none, so state. Identify closely related projects and briefly describe the nature of each relationship (include web links as appropriate/available).

REFERENCES

Omit if none.

H. Schlichting and K. Gersten. *Boundary Layer Theory*. Springer, Berlin, 8th edition, 2000.

PUBLICATIONS

Omit if none. Listing of publications produced during this effort. If you use BibTEX, you can use e.g., bibunits or multibib to insert a second set of references, or just copy the contents of a .bbl file here.

PATENTS

Omit if none. List all patent applications / awards for the project not reported in prior year's reports, or that have been previously reported but whose status has changed. Note at end of item in brackets whether patent has been "GRANTED", for example: "…[granted]", otherwise "pending" will be assumed.

HONORS/AWARDS/PRIZES

Omit if none. List any received and not previously reported. Include recipient, recipient's institution, award 'name', and award sponsor.