Abstract Guidelines

An abstract is a brief summarizing statement, usually between 75 and 150 words long. It gives the reader a synopsis of the problem, method, results and conclusions of your document. The abstract takes the form of a paragraph, usually with 5-10 sentences. It appears at the top of a journal article, just under the title, or on the page following the title page of a report. In the latter instance, the abstract appears on a page by itself.

Abstracts are often collected into volumes and must be able to stand-alone. They are read by parties who are trying to decide whether or not to read the main document. Sometimes they are read by people who want to get the big picture before reading the main document. Abstracts can save readers an immense amount of time.

An abstract includes these elements:

1. **Problem**. Note the key topic or problem of your document.

2. **Method**. State your main approach to solving the problem.

3. **Results**. Provide one or two important results.

4. **Conclusion**. Note your main conclusion.

Descriptive Abstracts

In descriptive abstracts, which are often written before a project is completed, the emphasis is placed on the problem and method. Such abstracts may be required for conference paper proposals or for progress reports. For example:

Title: Machine-Intelligent Gust Front Detection

Doppler weather radar imagery [method] is being used to detect gust fronts [problem] as part of a program at Lincoln Laboratory to anticipate hazardous weather conditions [problem]. The project goal, under contract with the Federal Aviation Administration, is to develop a Machine-Intelligent Gust Front Algorithm (MIGFA) [method] as part of a suite of hazardous-weather detection functions.

M. W. Merritt et al., "Wind-Sheer Detection with Pencil Beam Radars," Lincoln Laboratory Journal
Compare this with the example of the informative abstract.

Informative Abstracts

In informative abstracts, which are written after the project has been completed, care is given to providing information on the results and conclusion of the project. For example:

Title: Machine-Intelligent Gust Front Detection

Techniques of low-level machine intelligence, originally developed at Lincoln Laboratory to recognize ground vehicles obscured by camouflage and foliage, are being used to detect gust fronts in Doppler weather radar imagery [method and problem]. A Machine-Intelligent Gust Front Algorithm (MIGFA) has been developed [result] as part of a suite of hazardous-weather detection functions being prepared under contract with the Federal Aviation Administration. Initially

developed for use with the latest generation Airport Surveillance Radar equipped with a wind shear processor (ASR-9 WSP), MIGFA was deployed for operational testing in Orlando, Florida during the summer of 1992. MIGFA has demonstrated levels of detection performance that have not only markedly exceeded the capabilities of existing gust front algorithms, but are also competing well with human interpreters [result and conclusion].

--M. W. Merritt et al., "Wind-Sheer Detection with Pencil Beam Radars," Lincoln Laboratory Journal