July 24, 2007

Professor A. T. A. Wood
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Dear Professor Wood:

Please find attached our revision to

JRSSB submission B6215R: "Alpha investing: A procedure for sequential control of expected false discoveries" (with Dean Foster)

We have rewritten the paper to address the suggestions and comments. First, as you may have noticed, we changed the title a little to clarify the topic of the paper and remove an acronym. Further changes emphasize a general tightening of the language that reduces the length to 26 pages.

We enclose a detailed response to the comments on the previous version, starting with your comments, those of the AE, and then those of the referee.

Sincerely,

Robert A. Stine
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Editor's report

The revised paper is more concisely written, with a general reduction in length down to 26 pages (a bit less than requested).

Typos and minor

We either fixed the mistakes or removed the sentences with the noted typos. As to the format of references, we use bibtex and a style file that alleges it produces an RSS citation. We hope they look OK in this version.

AE's report

Major comment

We shortened all of the sections of the paper. With regard to the suggested specific reductions,

1. We reduced Section 5.1 and merged the results into the rest of Section 5.

2. The former Section 7 is shorter with a more concise description of the examples and now appears as Section 6.

3. We removed the last two paragraphs, as suggested.

Minor comments

The citations now refer to the published papers.

Response to referee

Justification of mFDR vs FDR This preliminary comparison no longer appears.

Example in Section 7.2 We added two examples. One example directly compares alpha-investing to the weighted BH procedure that uses an oracle to assign weights (see Figure 2). The second added example demonstrates the use of alpha-investing for a sequence of hypotheses (summarized in Figure 3).

Minor comments

- We consistently use the word "uniform" in the revision.

- We agree and have made Section 5.1 much more brief.

- We moved this paragraph into the concluding discussion.

Summary of Other Changes

- Merged the reduced Section 5 with Section 6.

- Removed former Theorem 3 and relegate these tangental results to a remark at the end of Section 5.

- Removed distinct breaks for subsections from the paper.

- Shortened section 7.1 (designing rules) and merged the discussion into the rest of Section 6 (in the new numbering).

- Added simulations that (a) compare alpha-investing to weighted BH and (b) demonstrate that it works when applied to a sequence of hypotheses.