Significance, Originality, and Literature Review

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As with any scientific journal, submitted manuscripts to *Optical Engineering* must pass thresholds for significance and originality to be considered for publication. Significance is assessed by impact on the scientific field relative to objective performance measures, and represents more than just expended technical effort. Likewise, originality must extend beyond a refinement in implementation of established ideas, and reflect a new discovery or way of addressing a problem. I highly encourage the editorial board to maintain high standards for these attributes, and challenge all prospective *Optical Engineering* authors to clearly exceed these expectations.

Unfortunately, rejection of manuscripts based on lack of significance or originality is quite common. Over the past year, 47% of manuscripts declined for publication in *Optical Engineering* were deemed out of scope of the journal, while 40% were declined due to lack of significance. These manuscripts declined due to lack of significance represent over 75% of declined manuscripts considered within scope to the journal.

A common deficiency I have witnessed in many of these manuscripts is the failure to clearly articulate the significant and original aspects of the described work and to support these assertions based on a thorough literature review. An acceptable literature review must be comprehensive, reflecting an extensive examination of the relevant body of literature, identifying where the current state-of-the-art is lacking and further advances are necessary, and using objective measures of performance where possible to gauge the impact of future advances.

A convincing case for significance and originality begins with a thorough literature review demonstrating the authors’ understanding of the relevant prior work in the field of study and serving as a point of departure for their original contribution. While quite fundamental, the preponderance of submitted manuscripts lacking a thorough literature review and convincing articulation of significance and originality indicates a need to clarify these standards of publication. Please take these thoughts into consideration when composing future papers, and remember that the burden of proof for significance and originality ultimately lies with the authors.

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