

Optical Engineering

OpticalEngineering.SPIEDigitalLibrary.org

Significance, Originality, and Literature Review

Michael T. Eismann



Significance, Originality, and Literature Review

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. A critical threshold of acceptance for publication in *Optical Engineering* is that the work described advances the field of study, and it is the responsibility of the authors, not the reviewers or readers, to clearly establish a solid case that the work exceeds this threshold. I encourage associate

editors to carefully review the introductory section of a submitted manuscript in order to make an initial assessment before assigning reviewers for a more rigorous examination. If the authors have not convincingly supported the significance and originality of the work by the end of this section, then it is appropriate for the associate editor to make a decision without review and avoid further expending the efforts of the editorial board and technical reviewers.

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. 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.

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.

Michael T. Eismann
Editor-in-Chief